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PRUNES IN PLENTY

BY S. L. WATKINS, GRIZZLY PLATS, CAL.

THE GROWING of prunes in California is now one of the leading industries, and I think that I may be safe in stating that every county at present contains a number of prune growing orchards.

The hot, interior valleys, however, are acknowledged to be the most superior sections for the growth and production of these celebrated fruits.

The Sierra Nevada Mountains will grow them to perfection, but the valley sections will always prove the most profitable, because the cost of production is considerably less, and also the facilities for marketing are cheaper.

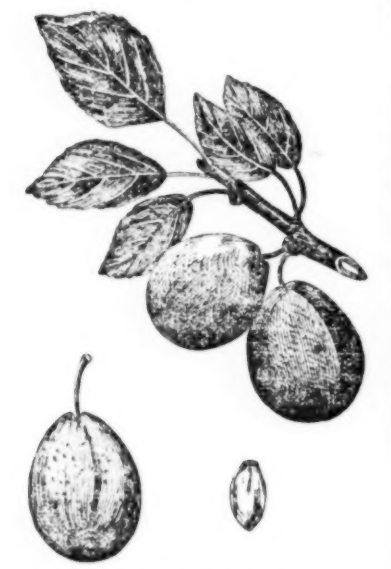
French prunes can be successfully grown at 4,500 feet elevation above sea level, but they must be dried by an evaporator at these altitudes. Still, a great per cent. of the French prunes in California are evaporated, even in the most favorable drying districts.

The production of prunes in California for 1892 was 25,000,000 pounds, and it is now estimated that in five years, when the thousands of young orchards will commence bearing, the yield will be 500,000,000 pounds. This is an immense amount of fruit, and many growers are in doubt as to the marketing of such vast amounts. But one thing is certain, the prune growing districts of the world are limited, and the favored localities that produce this fruit to perfection, will, as it were, hold a monopoly over the rest of the world in this particular line.

In regard to overproduction, if a systematic distribution is followed out, the whole crop can be marketed with profitable results to all parties concerned. There are tens of thousands of persons who, figuratively speaking, know nothing at all of this most delicious fruit, and all persons who once sample the well cured California prune, I think, will be lasting customers.

There are about 2,000,000 prune trees in California, and the largest prune orchard contains about 300 acres. The standard distance for setting prune trees is about 20 feet apart.

The prune tree has very few enemies, comparatively speaking; less than any other variety of fruit. The different



CALIFORNIA PRUNE.

species of scale so destructive to most orchards is not a very great enemy to the prune. Most all varieties of prunes are rapid, vigorous-growing trees, and commence bearing at a very early age. The cost of curing and picking French prunes is extremely cheap in comparison to other varieties of fruit.

The fruit of the French prune is not picked until it is thoroughly ripe, and is then gathered as follows: A canvas sheet is arranged on wheels, and is made in such a way as to admit the trunk of the tree. It is also wide enough to catch the fruit from the outside branches. A hole is made in the canvas and the canvas is inclined enough to allow the fruit to roll into any box or other receptacle which is placed underneath. The tree is slightly jarred, and the ripe fruit tumbles down. After being gathered it is taken to the curing-house, where it is run through a grading machine to properly assort the prunes and to remove all inferior fruit, leaves, and buds of branches that may have happened to be shaken in at the time of gathering. The fruit after being assorted is submerged 15 or 20 seconds in scalding hot water which is charged with lye (about

one pound of lye to 20 gallons of water). The operation is to crack the skin, so as to facilitate drying.

The fruit, which is in a wire dipper, is next submerged in pure cold water to remove all impurities and dirt which may be upon the prunes. It is then ready to be placed upon trays to dry in the sun. This latter requires from four to ten days to properly cure in the sun. The prunes must not be too dry; just dry enough to keep properly. After being dried they are placed in the sweating-room, and are allowed to remain there three to four weeks; preferably four, because a beautiful gloss is added, which makes the fruit very attractive and salable. The prunes are placed about two feet deep in the bins, and are turned over every few days to facilitate sweating.

The French have a method of drying, or rather cooking and sun drying to

the land for several seasons can be used for raising potatoes, beans, corn, etc.; so that enough can be made this way to pay expenses until the prune orchard commences to bear. Prunes, however, commence bearing at a very early age, and in a few years yield a great many pounds of fruit. Two and a half to three pounds of green fruit are required to make one pound of dried fruit. Average prune trees during their prime bearing period should yield from 60 to 300 pounds of fruit per season. As the French prunes



THE GERMAN PRUNE.

are very prolific bearers, they should not be allowed to bear too heavily. A judicious and proper system of pruning should be employed, in governing the load of fruit a tree should carry. The



PRUNE ORCHARD.

gether, which is not practiced at all in California. The California process is no doubt the best for curing this fruit. Some persons argue that the California prune is not a desirable dessert fruit to be eaten without cooking; but that I have sampled always proved to be deliciously sweet and splendidly flavored. The California prunes sell for two cents per pound more than the foreign article, thus proving their superiority.

The stock for grafting prunes must be governed by the location. A bright, sandy, sunny exposure, well drained, requires the peach root, which seems to make a splendid union, with the Petit d' Agen, and makes enormously prolific bearers, and remarkably vigorous trees. The Robe d' Sergeant prune, however, is said not to make a good union with the peach stock; the Myrabolan plum stock is best for this variety. For a wet, moist piece of land, the Petit d' Agen should be grafted on the Myrabolan stock, and for a high, dry, rocky location the hard-shell almond root is best. This latter stock is possessed of great vitality, and is very hardy, and in places where irrigation cannot be practiced this root should be used to the exclusion of all others, except as previously stated, the Robe d' Sergeant. In planting Myrabolan pits, if great caution is not used, all may end in failure, as young trees grown from pits differ vastly in strength, growing power, and vitality; so that an orchard grown on such stock, at a few years of age, would be very inferior looking. The way to do would be to select cuttings from the most vigorous growing Myrabolan stocks in the Fall of the year. Keep in moist sand all winter, and in early Spring plant out in nursery rows, and at the proper season graft or bud. The Mariana stock is also very desirable for either prunes or plums.

In California, all the standard varieties of prunes are grown. In the State of Washington, the Felleberg prune is very extensively grown; the fruit is said to resemble the Petit d' Agen when dried, except that it is a little more tart. In commerce it is known as the French prune, as are also many other varieties. In drying inferior varieties, and having them placed upon the market as French prunes, it will undoubtedly injure the sale of the genuine article. One good thing is that the French prune is such a tremendous bearer, and is so cheaply cured and marketed, that other less favored varieties cannot be dried and cured at the same price with profit. In laying out young prune orchards,

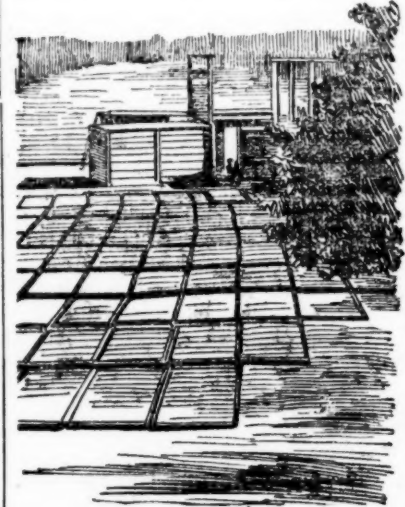
trees should be pruned, so as to form extremely stout limbs, and to form plenty of bearing surface, and, at the same time, a beautiful, symmetrical tree.

In setting out an orchard it is advisable to have every third or fourth row some different variety, so that the trees may become properly fertilized.

For commercial purposes, an orchard composed of one-third Tragedy prunes, one-third Black German and one-third Petit d' Agen will be best, as these, I believe, are the three best growing prunes.

To the future prune grower who desires a description of the prunes grown in California, I would mention the following: Petit d' Agen, a California French prune, is similar or identical to the prune of commerce that the French raise, and is the leading commercial prune grown in California. It is of medium size, very sweet and delicious, and when fully ripe a beautiful violet-red, merging to an intense glowing black. Its trees are vigorous growers.

Robe d' Sergeant is considerably larger than the Petit d' Agen. It is violet-red in color, covered with a dense blue bloom. It is not so highly flavored



TRAYS FOR DRYING PRUNES.

as the Petit d' Agen, but is a very prolific bearer and pyriform in shape.

Mount Barbet d' Ente—One of the very best fruits for a dessert prune. It is very large, and makes a fine dried fruit.

St. Catherine—A very desirable prune in every respect. It is of a beautiful yellow color, overspread with a thin bloom. It is deliciously sweet and perfumed, and is exceedingly valuable for preserving purposes, as well as for dry-

ing. It is of medium size and very productive.

The Black German prune must not be classed with the common German prune, as it is widely different. The common German prune is not a good bearer, at least what trees I have observed were not, but the Black German is immensely productive, the trees commencing to bear at a very early age. The fruit is large, oblong in shape, and a glossy black when ripe. They are more delicious and highly flavored than any fruit that I know of. They are very superior to ship green, and command the highest market prices. A grower here in El Dorado has realized over \$90 per tree from this variety of fruit. It is also very valuable as a drying fruit.

The Tragedy prune is the earliest of all, and is more especially desirable as a green shipping fruit. It is, however, a very fair drying fruit, having a sub-acid flavor when dried. It is said to be a cross between the German prune and Duane's purple plum. It is reddish-black in color, flesh green and sweet.

Felleberg (Italian prune) is a general favorite in the Coast regions. It is large, oval in shape, very juicy, sweet and delicious; a deep reddish-purple in color, covered with a blue bloom. It is a superior shipping and drying prune.

The Hungarian prune grows to perfection in the mountain soil of the Sierras, and is very valuable as a green shipping fruit. When thoroughly ripe, it is a splendid prune to eat. It is a reddish-violet.

There are the Oregon or Silver prune, the Golden, Elmore, Diamond, Ruby, and several other varieties that I have not mentioned, which possess considerable merit, and are extremely valuable for certain localities.

All things considered, the growing of prunes for commercial purposes is as profitable as any horticultural industry known; that is, in all locations to which such fruits are adapted.

Prunes are a staple food, and when the products of California's orchards become more widely known, the market for such will be almost unlimited.

J. B. FURROW.

Vice-President of the National Farmers' Alliance.

J. B. Furrow was born in 1833 in Ohio. He was raised in the "backwoods," and his early education was



limited. He emigrated to Iowa in 1862, and took up a farm. He was early in the movements for farmers' interests, and was appointed State Deputy for organizing Granges. He held this position for six years. He was then connected with farmers' clubs, and lastly entered the Farmers' Alliance. He served one year as Vice-President of the State Alliance of Iowa, and two years as President, and had the honor of bringing the organization in Iowa up to the top of the scale, with 50,000 enrolled members. He worked on strictly non-partisan lines, the keynote of his efforts "Education." He was elected Vice-President of the National Farmers' Alliance at Chicago Jan. 18, 1894.

Flax on Timothy Sod.

EDITOR AMERICAN FARMER: Being an interested reader of your paper, would like to inquire through the columns of it what the farmers think about raising flax on timothy sod. Will it prosper and flourish on such ground? Would like to hear through the columns of your paper from someone who has had experience in this line.—SAMUEL CORY, Winnebago City, Minn.

The farmers of western Kansas urge the creation of the office of State Irrigation Engineer, whose duty it shall be to study the problem of irrigation in the State and give the people the necessary instruction as to the best means and methods.

NATIONAL DAIRY CONGRESS.

An Important Meeting and Completion of the Organization.

Agreeable to call of the Committee on Permanent Organization that was chosen last October at the late World's Fair, the convention met Feb. 9, with President Henry M. Arms, of Springfield, Vt., in the chair, and C. L. Gabrilson, of New Hampton, Iowa, Secretary.

The meeting was held in the Forest City House, Cleveland, O., and 20 different States were represented, as provided in the call. H. M. Arms, C. L. Gabrilson and D. P. Ashburn were chosen Committee on Credentials. There was no conflict of credentials except in Ohio. Gov. McKinley had issued commissions to 13 different gentlemen to attend the convention for the double purpose of completing the organization of the National Dairy Congress, and also to complete the organization of the Ohio State Dairy Association commenced in Columbus at the January meeting in 1894.

The Ohio delegation chose J. McLain Smith, of Dayton, Chairman, and empowered him to cast the two votes for Ohio in the National Convention, when consultation with the other delegates had by majority decided what the Ohio vote should be. The meeting was well improved every moment with discussion of all questions affecting the great dairy industry of the United States when no special business was before it.

A committee of five was appointed to draft a constitution and by-laws to complete the National Dairy Congress, and to make nominations of its officers. The following delegates were appointed: Henry Talcott, Jefferson, O.; D. P. Ashburn, Gibson, Neb.; G. A. Bowen, from Connecticut; H. J. Wing, from Georgia; C. D. Curtis, from Wisconsin.

The afternoon was devoted entirely to the pen-up oratory and very wise suggestions for the advancement of the dairy cause. It was such a lovefeast of acquaintance and recognition of the practical dairymen of this Nation as were never congregated together before, and although separated so far apart by States, they found themselves unconsciously near together in heart and sympathy with this most important farm industry, representing in wealth by far the greatest amount of any of the great long list of agricultural industries.

The Committee on Permanent Organization made a partial report, as follows:

Article 1. This Association shall be known as the National Dairy Congress.

2. The object of this Dairy Congress shall be to promote the dairy interest of the United States, and elevate the standard of all its dairy products.

3. This Dairy Congress shall be composed of two delegates from each State Dairy Association and one delegate from each Experiment Station carrying on dairy experiment work; provided that in those States where no State Dairy Association exists, the Governor may appoint two delegates who shall be practical dairymen.

4. Each State Dairy Association may appoint two delegates for the next annual meeting, one for one year and one for two years, and each year thereafter appoint one for two years.

5. The annual dues shall be \$20 from each State Dairy Association and \$10 from each Experiment Station, to be used for the expenses of the Dairy Congress.

6. Its officers shall consist of a President, Vice-President, Secretary and Treasurer, who shall constitute the Executive Committee.

7. The President shall preside at all meetings, and in his absence the Vice-President shall be the presiding officer.

8. The Executive Committee shall have power to transact all business not done at the annual meeting.

9. In all meetings each State representation shall be entitled to three votes, to be cast by the delegates present.

10. This Constitution may be amended at any annual meeting, by a two-thirds vote of the members present.

The report was adopted.

The Executive Committee are left perfectly free to pursue any line of work that will fairly comply with Article 2 of the Constitution. They can aid and assist the formation of dairy schools wherever needed to advance the quality of the American dairy product. This will no doubt all be done in connection with State Dairy Associations and Experiment Station work.

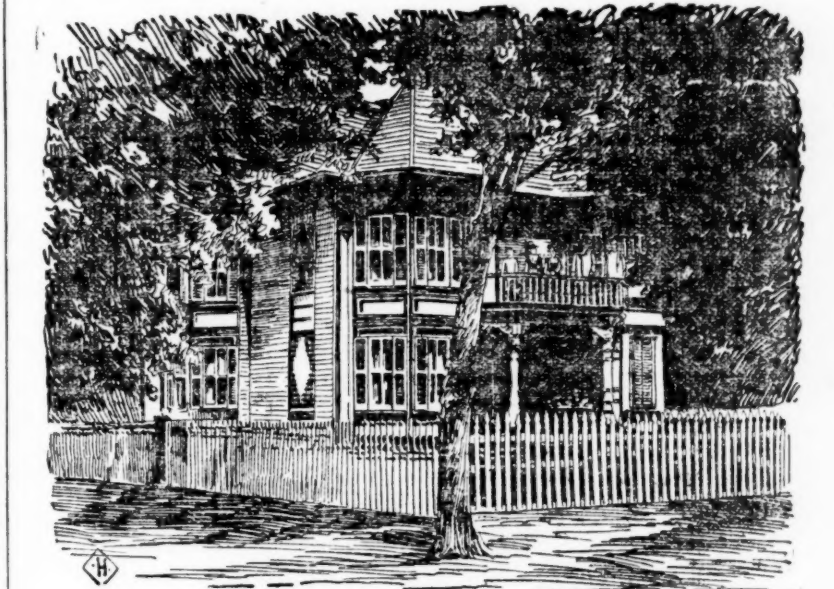
They also have unquestioned power to receive into honorary membership all manufacturers of pure dairy goods by exacting of them a sufficient guarantee that they will in no instance manufacture any cheese but honest full cream cheese and perfectly pure butter, nor sell adulterated milk. For an annual fee not excessive at all they can publish to the world all the manufacturers of honest dairy goods that see fit to enroll themselves in membership agreeable to conditions of the Executive Committee. In the same manner can they give character and assistance to the honest retail dealers of this Nation, and the publication of the names of all dealers who will comply with the requirements. The information

so thoroughly given to the consumers of food will point out to them the honest dealer in dairy goods in every city or village store in the Nation, and there is then no excuse for them to buy hard, indigestible skim-milk cheese or that that is lacking at all in virtue, and they, together with bogus butter, filled cheese, and adulterated milk, can be buried in the same ignominious grave, and thus eliminate these twin relics of barbarism and dishonesty from the table menu of our national foods. There is a mountain

so much proficiency in four months of study as to secure a No. 1 certificate.

In the Spring of 1887 his parents emigrated to Iowa, and he accompanied them. They settled in Louisa County.

He early showed a natural taste for mechanics of all kinds, and was very successful in building houses, barns, etc., and in constructing and repairing wagons, buggies, cultivators, and farm implements. He became also a good blacksmith. With all these acquirements, he was still a very good and successful



RESIDENCE OF ELWOOD FURNAS.

of good that can be accomplished by this most important organization ever completed in this Nation to elevate the purity and standard of food. Honest food means good digestion, pure blood, and higher and nobler aspirations and a good conscience, that elevates the human character and points them heavenward in their perilous march through this world of ours.

Thursday morning the Committee on Organization and Nominations made their complete report through their Chairman, Henry Talcott. The Committee offered the nominations of Henry M. Arms, Springfield, Vt., for President; John F. Hickman, Wooster, O., Vice-President; D. P. Ashburn, Gibson, Neb., Secretary; C. L. Gabrilson, New Hampton, Iowa, Treasurer.

On motion it was voted to suspend the rules and the Secretary should cast the entire vote of the National Dairy Congress. Chairman Talcott then announced that 80 votes had been cast for the officers above named, and declared them duly elected to perform their several duties until our next annual meeting. The report of the committee was then received and committee discharged. To the close of both forenoon and afternoon sessions this day profitable discussions occupied every moment of time. Delegate Hostetter, of Illinois, offered resolutions of instructions to guide the Executive Committee, with Chairman Smith in the Chair pro tem, and after fair discussion were adopted.

A friendly and open meeting was held all the time between the National Dairy Union Board of Control meeting being held in the Hollenden House, in Cleveland, O., the same day of this convention. The utmost harmony prevailed between these two National associations, who have much in common interest, but as a matter of necessity must consist of some different membership, as their line of work is to be different in many respects. A free and cordial intermingling of the two bodies, and in many instances members joined both associations, as the National Dairy Congress adopted a rule of honorary membership, with an annual fee of \$2, which would entitle all such members to a fair report of the useful and interesting publications of the Executive Committee, as they may see fit to give out from time to time in the ordinary transaction of their work.

The Ohio State Dairy Association was left an open question until Feb. 23, when at an appointed meeting and time in Columbus, O., it will be completed. Thus ended the most important meeting ever held in these United States to advance the interests of pure food in the dairy line of production.—HENRY TALCOTT.

ELWOOD FURNAS.

The New President of the Farmer's Alliance.

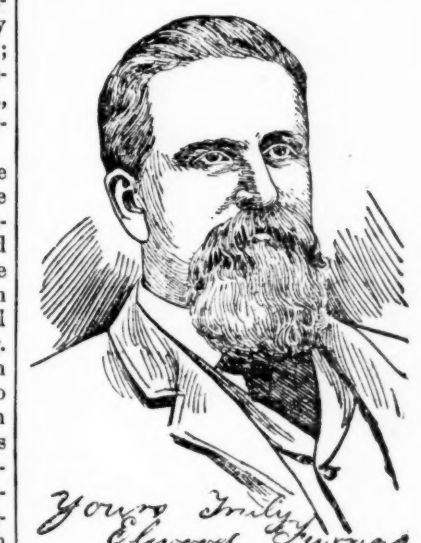
M. Pearl, a schoolmate and life-long friend and companion of President Furnas, of the Farmers' Alliance, sends THE AMERICAN FARMER the following sketch of that gentleman:

Elwood Furnas was born in Montgomery County, O., Feb. 22, 1840. He attended a country school, but showed an aversion to grammar until he had completed the other studies. Dec. 1, 1856, he took up grammar, and showed such comprehension of the subject that, according to the testimony of his teacher, he made

farmer, and accumulated wealth in that profession.

In 1869 he emigrated to Story County, Iowa, and took the farm where he has since resided and developed into one of the finest in the State. A picture of his handsome and commodious house is given herewith.

In 1873 he was elected Justice of the Peace, and his successor has not yet been qualified. In June, 1880, he joined an alliance to chase down and capture the horse-thieves who infested the community,



and the members of which mutually bore pro rata, the expense of the work. Ever since he has been fighting injustices practiced against the people.

In 1888 he was elected to the Presidency of the Story County Farmers' Alliance, and in the same year a delegate to the State Alliance. He has been a delegate every year since. He was chosen one of the delegates to represent the State of Iowa at the Omaha National Alliance in 1891. He was sent by the State Alliance to the National Alliance in Chicago in 1892, and again in 1893.

In 1892-93 he was President of a "Farmers' Progressive Reading Circle," and was also elected President of the Story County Farmers' Institute, and still holds those positions.

He was a member of the Committee on Resolutions of the National Alliance in 1893, and introduced the resolution on finance which was adopted by that body in 1893 and again in 1894. In 1893 he was also Chairman of the Education and Auditing Boards.

Another associate and friend has written of him as follows: "Mr. Elwood Furnas, of Nevada, Iowa, the new President of the Farmers' Alliance, is one of the wide awake, progressive large farmers of Iowa, and resides on his well-improved farm, and that he is successful is proven by the well-to-do circumstances he is in. He has been identified with the Alliance movement from the beginning, and will bring to his new position experience that will make his work successful. In the past he has freely given of his money and helped the organization along, and in the future he can be depended upon not to spare either time or his money necessary to judiciously carry on the work. He is a man of refinement and education, with broad, liberal views, and thoroughly in earnest as to the farmers' interests. The organization can be congratulated upon their choice of President."



Yard Echoes.

Smutty corn should always be burned instead of fed to stock. Remember this.

Insist upon the friendliest relations with every head of live stock on the place. This kind goeth not out by kicks and neglect.

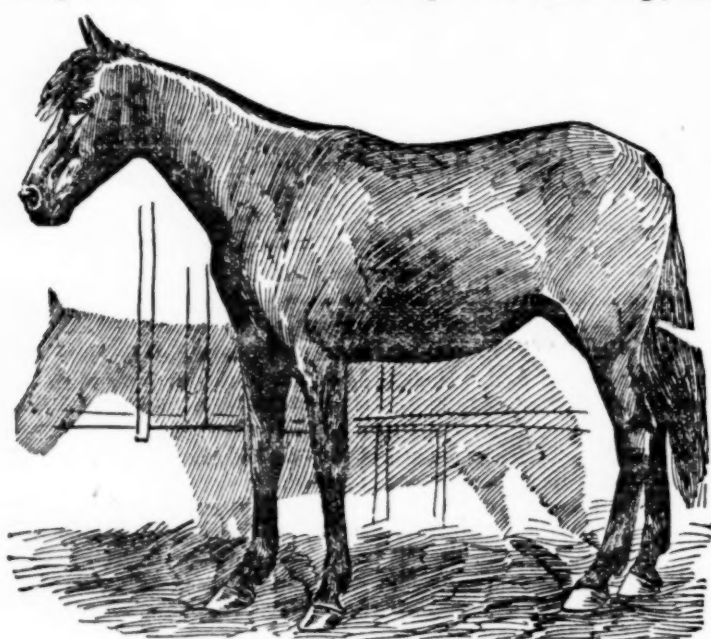
Stock should feel—handle—well rather than look well. The eye may be deceived, but the hand will tell whether the skin is loose or the body a sack of bones.

Save the best hay, especially the clover, for later on next Spring for incoming cows, mares, and ewes; they will need it more than any other stock. Remember this, please.

Sheep, colts, and calves should not be turned on the growing wheat and rye when the ground is wet, so that it will poach. This does not apply to sandy and so much as clay or loam.

The New Jersey Board of Agriculture has adopted a resolution asking the Legislature to appropriate \$20,000 for the inspection of cattle and remuneration of farmers whose cattle may be slaughtered on account of tuberculosis.

There never has been a time when pure-bred stock was so easily within the reach of the common farmer as now. There never has been a time when the outlook for poor and scrub stock was so unsatisfactory. Only the best stock has a promising future.



LADY WHITECLAW, DAM OF GEB (2:20) AND RAMONA WILKES (2:29).

Be sure that there is a shelter for every animal on the farm, a comfortable place where it will be warm no matter what sort of weather comes. If, though, it should be that the important shelter is not provided and can't be, then sell the poor beast or give it away.

Don't turn stock into an open, bare, shelterless pasture these wintry days unless there is provided hay or straw racks or racks full of hay for them to pass the time with. A load of corn fodder may be hauled out on clean pasture land for the stock to pick at.

Winter is bad enough at best, but is especially terrible to the farmer who has no secure comforts in store for his stock. When the snow and sleets come and the family cow stands humped up in a fence corner the long, dreary night through, it would be little wonder if purgatorial nightmares visited the owner in his comfortable bed so that he could not sleep.

The Board of Health of Pittsfield, Mass., has quarantined as tuberculosis suspects eight more head of the gilt-edged Durham dairy herd of W. F. Milton, of the famous "Unkempt Farm." A dozen of these cows have already been killed, and the prospects are that the entire valuable herd will be entirely wiped out by it.

It is noticed on all stock farms that certain families of horses, cattle, sheep, and swine keep in condition so much easier than others. This quality is an inheritance and should be appreciated and encouraged. It means quick results, certain profits. On the other hand, too, there are certain lean kinds that never show their keep and look worse than they are. None such should be kept; they rarely pay for what they eat, to say nothing about profits over and above keep and care. They soon eat their heads off.

Cattle Growers Organize.

The cattle growers of Park, El Paso, Douglas and Jefferson Counties, Colo., have formed an association for their mutual protection. For years the cattleman have suffered from depredations of men who killed cattle. Several thieves have been sent to the penitentiary, but the stealing did not cease. Rules will be adopted by the new association which will stop the trouble.

Tuberculosis Among Cattle.

An outbreak of tuberculosis among valuable cattle at the State Experiment farm at Burlington, Vt., is causing considerable alarm among the farmers throughout the State. The State Board of Cattle Commissioners, however, believe that while the disease is prevalent in Burlington, there is no cause to fear that it will spread.

A GREAT MOTHER.

"Lady Whitelaw," of Ohio.

Jas. D. McMann has a proud place in stable history as the driver of Flora Temple when she broke the trotting record at Kalamazoo in 1859 with a mile in 2:19. He had also broken the pacing record four years previously with Pocahontas, making a mile in 2:17. He was the owner of a daughter of Ryslyk's Hambletonian, which he sold to George Sprague, of Cleveland, O., and became locally famous as "the Sprague mare." It is generally believed that her dam was Hero of Chester. She had two foals—Expectation, a bay gelding, who made a record of 2:25; the other was Lady Whitelaw, foaled in 1871, and sired by Mambrino Clay. She was not bred until 13 years old. Her complete list of foals is as follows:

1885, bl f Nettie L., by Annapolis, 989.

1886, b f Ramona Wilkes, 2:29, by Brown Wilkes, 2:24.

1887, b f Prince Whitelaw, by Vigil Rene, 11,616.

1888, b f Geb, 2:20, by Vigil Rene, 11,616.

1889, b f unnamed, by Vigil Rene, 11,616.

1890, missed.

1891, bl f unnamed, by Brown Wilkes, 2:21.

1892, b f unnamed, by Brown Wilkes, 2:21.

1893, gr f unnamed, by Conductor, 2:25.

1894, with foal by Buckeye Bourbon, 17,253.

Nettie L. was injured so that she could not be trained, and has been used for breeding.

Ramona Wilkes was sold to go to Europe. She was a large, handsome

SHEEP AND WOOL.

Shearings.

One man knows how to keep sheep and another does not; this makes all the difference in the world in the profits.

It is believed the receipts of sheep at Chicago during the past year will foot up 3,025,000 head, or 843,000 more than in 1890, the previous banner year.

Mr. C. P. Bailey, importer, breeder, and dealer in Angora goats, California, says: "Only one-tenth enough mohair is raised in the United States for home consumption."

Truly flocks and flockmen are being tried as by fire in this country, but the ordeal will have a beneficial effect upon the future character of flocks and the economies of the flock raisers.

The Commissioner of Agriculture, Labor, and Statistics of Kentucky, says: "The average number of breeding ewes for lambs this Spring is two per cent. less than a year ago."

The heaviest sheep at the World's Columbian sheep show was Keepsake No. 7469, a three-year old Oxford Down, weighing 436 pounds just before starting to the Fair. He is owned by W. A. Shafar, Secretary of the Association, Middleton, O.

Campbell, Hunt & Adams, Kansas City Stock Yards, in speaking of the sheep industry said a few days ago: "We do not believe it will be long before they will realize better prices, for there is nothing like the number on feed that there was last year."

South Dakota Farmer: While tens of thousands of sheep are being slaughtered at every shipping point, we are glad to note that many of the sheep which have been put upon the market in South Dakota have merely changed hands; particularly is this true of our best ewes.

The use of sheep bells has been practiced by shepherds of all countries for centuries, and deserve to be used in every flock, large or small. It is safe to say 10 bells to every 100 sheep. No flockman can afford to be without them, and when once used will not be without them again.

Size up the kind of a sheep that will be profitable under free trade, and begin at once to shape yourself and the farm for the future. This may not be regarded as good advice coming from us, but this is safe. The sheep that can possibly pay its way and a little more under the free-wool law, will be a good sheep to keep under the McKinley Law.

Several times during the last 30 years the sheep industry has been depressed once or twice to the very verge of despair; but each time a way was found that brought better results than was expected. The improvement of flocks in the direction of wool was very beneficial, and it will be again, but it must have muton in close connection. The more of each the better. Keep this always in mind.

It is quite often, too often in fact, that chickens are allowed to roost in the sheep sheds, and the introduction of lice is sure to follow. That these mites can exist on the sheep is well known to us, and that they will prove quite annoying, which means detrimental to the growth and thrift of the flock. Provide a place for the hens, and see to it that they change quarters at once. The sheep sheds should be thoroughly renovated, not once but repeatedly until no suspicion of lice is left.

The scalawag sheep are going to market, the scalawag sheepman is going out of the business, and all because of the scalawag Congressmen. By and by there will be a reckoning, and there will be a gathering of scalawags in the beyond, and let all the people say, amen! The sheep raisers of the United States are nearer of one mind and heart than they have been since 1867. It is as on the day of Pentecost waiting, "when they heard every man speak in his own tongue." They are as ready to act as to wait, too, if their petitions are not heard in Congress.

Now that the season is not so busy, and there is more time for thinking over the year's enterprises, labors, and results, take a look backwards, and see if mistakes were not made that could have been avoided; if there were not losses that were unnecessary. Most men learn by experience, and sometimes it is by bitter experience, too, but if possible do not allow the same experiences to be turned to so bad account again.

Two men will start in sheep raising at the same time with the same sort of sheep and as near as can be bred and fed alike. Ten years will show a difference in the flocks and bank accounts. One was diligent, careful, and gentle. The other trusted providence and fretted at his bad luck; he would hoop things up every now and then, and make things stand around. His sheep were afraid of him.

Don't Part With Your Sheep.

If the Wilson Tariff Bill should pass the Senate, prices for American wools may be unremunerative for a few years; but flockowners, nevertheless, should hold on to their sheep. We advise this course: at least, until the fate of the Wilson Bill is settled, for if the McKinley law should escape the attacks made upon it, prices for wool would advance and the value of sheep would double. Therefore, to all who can do so, we say, don't part with your sheep, but take advantage of the low prices and buy sheep. Prices are probably at the bottom, and if this should be the case, there is everything to gain and nothing to lose. The slaughter of flocks has been so great all over the world that a turn in the tide is not improbable.

Justice, Bateman & Co.'s Circular.

MONTANA SHEEP NOTES.

Some Items of Interest to the Wool Growers.

HERE are over 600 flockmasters in Montana, with an invested capital of \$12,000,000. The Montana sheep raisers have petitioned Congress to let the protective duties on wool remain, and if it must be reduced, that the law shall not go into effect for two years from the date of passing the new law.

During the year 1892, 4,000,000 pounds of wool were shipped from Great Falls, Mont. Montana wool is of excellent quality, due to the excellence of the soil, the buoyancy of the climate, and the intelligent care given the sheep, and the character of the breeding stock.

The weight of fleeces in large flocks average from four and a half to eight pounds, depending upon the season, the kind of rams used in the flocks, and the size of bands. Last year's clip sold at 10 1/2 to 18 cents per pound. B. C. White, who owns 12,500 sheep in Judith Basin, clipped 61,000 pounds of wool, which sold for 18 cents per pound. Mr. White estimates the raising of a pound of wool will cost 12 cents a pound when wages, shearing, freight and ranch supplies are adjusted to suit the inevitable emergencies that stare the Montana wool grower in the face.

At a late meeting of Montana flockmen a resolution was passed fixing the price of shearing at six cents per head with board, or 7 cents without board. In regard to wages of herders, the conclusion arrived at was that \$25 to \$40 per month should be changed to \$25 per month for common hands on the ranch, and \$30 per month for old, reliable herders. Among a few flockmasters it was thought that wages should be further reduced at least \$5 per month on both grades of help.

The conclusions of the meeting were, "that with the same intelligent system and conditions as are prevailing, in a few years unlimited quantities of the best wool could be produced; that there were wonderful possibilities of expansion, but if the National Government removes the present barriers and turns the markets over to foreign producers it will prostrate the industry."

It is believed that no region in the United States can produce better wool than Montana, but it is conceded that the cost is greater than in regions that require no shelter and feed during winter.

The matter of transportation rates alone handicaps the Montana wool grower very seriously. To illustrate this point it is only necessary to state that it costs half a cent a pound to put Australian wool into the Boston market via San Francisco, but it costs three to three and a half cents to put unwashed Montana wool on the Boston market. This is an injustice that should be corrected, and will be in time, to the satisfaction of all concerned.

SHEARING MACHINE.

An Invention which Promises a Reform in Wool Production.

In the reports of the United States Commissioners to the Centennial International Exhibition at Melbourne, 1888, is given a full description of such an invention under the head "sheep shearing," which will no doubt interest American wool growers. We quote: "A novelty in sheep station appliances is shown which promises to effect an important reform in the process of wool production. The wool growers of Australia have long been subject to inconvenience and loss through the difficulty they have experienced in securing the necessary force of skilled workmen at shearing time; but an ingenious member of this class, Mr. F. Y. Woollsey, has provided what is likely to prove an effectual remedy in the shape of a sheep-shearing machine. It took him 10 years to perfect his invention, and at last he got it extensively introduced, and with the best results. Its operative parts resemble those of a reaping machine. A comb with 11 blunt teeth, which is a segment of a circle of three inches in diameter, is pushed along the sheep's skin to raise the wool and is followed by a cutting tool with three teeth, a segment of a circle of three-quarters of an inch, and this snips off the fleece by a reciprocating action, taking all the wool and leaving neither tufts nor ridges to lessen the weight of the clip. The animal can be shorn as bare as is desired, and when closely clipped presents a beautiful pink surface without cuts or gashes. In an experimental trial of the machine, large-bodied merino wethers with three or four months' growth of wool upon them were shorn clean in four minutes each, while similar sheep hand-clipped were put under the machine and yielded eight and a half ounces more wool per head than they had already yielded to the hand clipper. An unskilled workman can be taught to manage the apparatus in a few hours or days at the outside, and an eight-horse power engine can run 100 machines. The cost of them is about \$10 (\$50) each."

Such a mechanical contrivance for shearing sheep has long been wanted by wool growers in this country. The only wonder is that some Yankee genius has not invented one and put it on the market long ago. It is earnestly hoped that such a machine may be introduced into this country at an early day. It seems that it might not only save wool and torture for the animal, but in rapid work would cheapen the raising of wool materially.

As to the motive power, a steam

OUR WONDERFUL SEED OFFER.

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EARLY TREE TOMATO	GOLDEN TRIUMPH	SULTAN ONION	SURPRISE CABBAGE	BUSH LIMA BEAN
BOSY QUEEN RADISH	ICE KING WATER MELON	ENGLISH SWEET PEA	MARIGOLD EL DORADO	KANSY SNOW QUEEN
LIGHTNING BELL	N.W. PREMIER PEA	CARNATION QUEEN	PHLOX	PANSY CASSIA
MORNING GLORY	DIANTHUS	MORNING GLORY	PANSY CASSIA	

By special arrangement with Messrs. May & Co., St. Paul, Minn., we will send, postpaid, special collections of Vegetable and Flower seeds to all who subscribe for THE AMERICAN FARMER.

These collections are put up for the exclusive use of THE AMERICAN FARMER. Many of the varieties offered are new and choice, being introduced for the first time this season, and retail at 10c, 15c, and 25c per packet. Other sorts are standard varieties which have stood the test in all sections and proven thoroughly reliable. Please read our offers carefully.

THE FARM GARDEN.
Collection No. 1.
To anyone sending us 50 cents for THE AMERICAN FARMER one year we will send this package postpaid.
Onion, Red Wetherfield..... \$.05
Cabbage, Surprise..... .10
Tomato, Early Tree..... .15
Pea, El Dorado..... .05
Bean, Refugee..... .05
Corn, Early Cory..... .05
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Cucumber, Long Green..... .05
Pumpkin, Mammoth..... .10
Water Melon, Kirby's Gem..... .05
Carrot, Scarlet Horn..... .05
Turnip, Early Milan..... .05
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Spinach, Long Standing..... .05
Retail price..... \$1.30
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To anyone sending us 50 cents for THE AMERICAN FARMER one year we will send this package postpaid.
Carnation, Queen..... \$.20
Nasturtium, Tall Mixed..... .05
Pansy, Royal Mixed..... .05
Dianthus, all colors..... .05
Morning Glory, Climbing..... .05
Sweet Pea, Choice Mixed..... .05
Pansy, Cassia..... .05
Mignonette, Giant White..... .05
Surgeon, El Dorado..... .05
Pansy, Snow Queen..... .05
Petunias, Mixed..... .05
Verbena, Mixed..... .05
Alyssum, Sweet..... .05
Retail price..... \$1.25
Packet alone to Subscribers 40c.

EARLY KITCHEN GARDEN.
Collection No. 3.
To anyone sending us 50 cents for THE AMERICAN FARMER one year we will send this package postpaid.
Cabbage, Early Wakefield..... \$.05
Beans, Valentine..... .05
Pumpkin, Boston..... .05
Peas, First and Best..... .05
Lettuce, Simpson..... .05
Cucumber, Early Frame..... .05
Tomato, Early Tree..... .15
Water Melon, Kirby's Early..... .05
Corn, Early Minnesota..... .05
Beet, Lightning..... .10
Onion, Sultan..... .05
Carrot, Danvers..... .05
Turnip, Purple Top..... .05
Okra, Extra Early Red..... .05
Pumpkin, Sugar..... .05
Retail price..... \$1.00
Packet alone to Subscribers 40c.

Address all letters to THE AMERICAN FARMER, Washington, D. C.

engine would not be necessary, since a horse power, a wind power, or a man power would answer every purpose.

We hope to see the day when these machines will be owned by parties who will do the annual shearing for a whole neighborhood, as the thrashing machines do in this country now, on contract.

Early Maturing Animals.

In sheep raising as we have it now, early maturity governs the situation. The same is true of cattle and swine. It costs too much to keep an animal two, three, or four years before it can go to market in its best form. Wonderful achievements have been made in all these lines within a score of years. At first there were those who questioned the propriety of selling yearling and two-year-old steers, but no one sees differently now. It was regarded as wrong to sell a pig at 8 or 10 months old, but it is all right now. There are still among us those who think their neighbors are crazy when they sell lambs at 8, 10 or 12 weeks old, not knowing that these lambs can be made to weigh 40, 60, and 75 pounds, and if sold in February or March will bring more money than they will at three years old. These statements are not visionary or impractical; they are being verified every day by intelligent, sagacious farmers all over the country. This sort of sheep raising is not disturbed so seriously by the Wilson Bill, though it may be by and by.

"The Sheep Incubator."

There were a great many wonderful things to see and hear at the World's Fair, and some of them were wonderful funny. On top of one barn were large white letters calling attention to the fact the Cooper's sheep dip exhibit was there; and right alongside was announced that somebody's incubator was represented in the same barn. No one imagined it possible for anybody to confound these two very interesting and distinct exhibits. But one afternoon the uniformed gentlemanly guard who was in charge of that point, was accosted by a pair of young folks, a gentleman and lady of very decided culture, asking where the incubator was. The guard told them it was right here turning out chickens by steam at a wholesale rate, and to walk right in. They seemed to be a little annoyed, and said, "But where is the sheep incubator?" In response to the question where were they from, and who they were, the guard said they were newly-married people and lived in Chicago, and turned to answer another questioner.

Western Wool Growers Meet and Organize.

The Interstate Wool Growers' Convention opened in the Chamber of Commerce, Denver, Colo., on Feb. 5, and an organization was effected. The following were elected officers: President, F. D. Wight; Secretaries, J. F. Gibbs and Eute M. Wilcox; Treasurer, Casimero Barela; Vice-Presidents, two from each State and Territory. The principal business was in framing a protest against the wool clause of the Wilson Bill. A long communication from the wool growers of Arizona was read, indorsing the movement and reviewing the evils of tariff changes as proposed by the Wilson Bill.

Russian Thistle as Sheep Feed.

For sometime much has been said of the dreadful Russian thistle taking up its permanent abode in the Dakotas, Minnesota, etc. It may prove to be a blessing after all. Hear what Roberts & Sons, Faulkton, S. D., say of it: "The Russian thistle, properly handled, is one of the greatest forage plants in Dakota, and I consider it a benefit to the people instead of damage. It will compel people to stop depending upon one industry—wheat raising—and compel them to raise stock; and sheep being the best weed destroyer, they will invest in a flock and turn Russian thistle into muton, and by pasturing one-half of their land and seeding the other half, thus keeping the land every other year and working sheep on it each alternate year, they will raise more wheat than they would under the present system."

The Duty on Wool.

EDITOR AMERICAN FARMER: I am well pleased with the ring of your paper. I have just read an article in THE AMERICAN FARMER of Jan. 15, in which you call the attention of its readers to the article by heading it "The Test of the Scales." You say in a suit of the finest cloth for which, \$75 is paid, the wool duties will not exceed 60 cents. Can you tell what the duty on that suit of clothes would be in coming through the Custom House ready made? Or, are we to understand that to be the total of the duty.—A STRUCKER, Olivet, Ark.

We only referred to the duty on the raw wool used in the manufacture, and that is the point under discussion. We have not attempted to go into the duties on woolen goods and manufactured clothing, since this would unnecessarily complicate the farmers' part in the argument which we are trying to maintain.

The duties on made-up clothing have a two-fold object, the first being to protect the cloth maker against injurious competition with the cheaper labor, capital, etc., of Europe, and the second to protect working tailors against the infamous "sweating system" of England. This system is so bad as to excite even the horror of Englishmen, and Parliament committees have been for years investigating it and trying to devise some means for mitigating its wrongs and miseries. The McKinley Bill imposed on ready made clothing four and a half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto 60 per cent. *ad valorem*. Therefore, if the suit weighed seven pounds, the specific duty would be 4 1/2 times 11 cents a pound, or \$3.47. If the suit sold at retail for \$75, it was probably invoiced at not more than \$20, and 60 per cent. *ad valorem* would be \$12, making a tariff of \$15.47 on the suit. But of this not more than 77 cents at the very utmost is chargeable to the duty on wool; the rest being wholly for the protection of the American cloth maker and tailor, who continue to receive protection, though the Wilson Bill strips it all off the wool grower.—EDITOR AMERICAN FARMER.

A Grand Sample of Lincoln Wool.

Mr. J. F. Gibson, of the firm of Gibson & Walker, importers and breeders of Lincoln sheep, Denfield, Ontario, sends us a grand sample of Lincoln wool. The fibers are beautifully crimped and lustrous, measuring 12 inches as it lies loose on the rule. It is the very best of the type, and we place it in our wool cabinet as a standard.

A STRONG TEMPTATION.



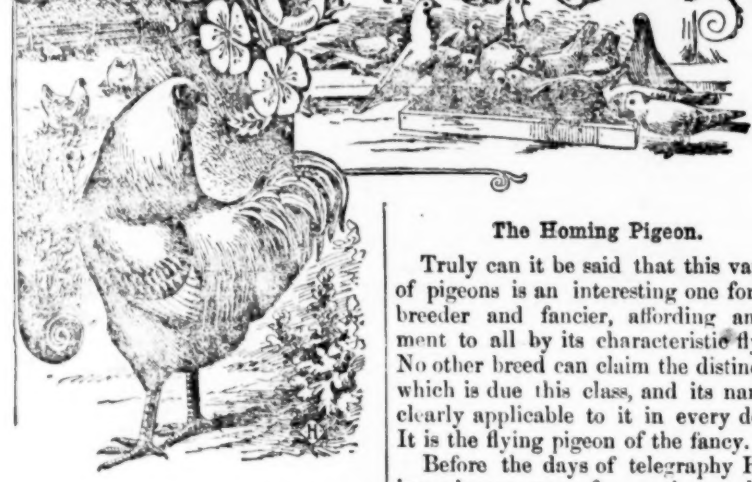
A story is told of an Irish coachman, who, driving past some harvest fields during summer, addressed a smart girl engaged in sheaving, exclaiming, "Arrah, me darling! I wish I was in jail for stealing!" The coachman was infuriated by the charms of the lovely girl, and who would blame him? In the morning the readers of THE AMERICAN FARMER are informed with the magnificent and interesting photographs of a young man, who is now offering them; and while they would not, of course, steal them if they could, yet they very quickly avail themselves of the splendid opportunity which has been placed within their reach. It is a rare chance, and they appreciate it.

LOOK OUT FOR EACH PART

As the coupons call for it. Be sure you cut out the coupon, which may be found on another page, and continue to do so every week, so as to secure the full set. The coupon will be found on page 1 of this issue. Cut it out and mail it, with 10 cents, to Coupon Department of THE AMERICAN FARMER, and Part Five will be sent. Those of our readers who have not as yet taken advantage of our offer can cut out the coupons from the four last issues, and mail them, with 40 cents, and they will receive the first four Parts.

DO NOT DELAY.

POULTRY, PIGEONS & PET-STOCK



Poultry Calendar for February, 1894.—The weather is still cold. Make no change in the diet. Food plenty of good, sound food; but do not give wheat, oats and barley. Chance for the larger part of the year in abundance; but the hay is fine as possible, and mix with it in your feed. Do not mix a portion of ground corn in your feed. The hens are ready for breeding. Set a few hens early in the month, and raise some chicks for early sale.

Cacklings and Warblers.
Green bones fed to chicks will make their growth seem marvelous.
Corn contains 86 per cent. of heat elements and clover 35 per cent.

Sprinkle powdered sulphur in the nest of the sitting hen to keep out the vermin.

After killing a fowl the inside and the crop should be removed as quickly as possible.

On gathering the eggs from the nest see that they are perfectly clean before packing them for the market or sitting purposes.

Hang your birdcage where no drafts will strike it. Canaries and other birds can stand almost any degree of cold, but a draft is fatal.

A bit of chickweed, a slice of apple and a ripe fig may be given your Canary occasionally; but only as a treat, and not often than once a week.

A Canary should never be given sugar, cake or other dainties, as it makes them too fat, spoils their voice and causes them to go out of song.

When feeding clover hay cut it into one-half inch lengths; if too long it will cause crop-bomb. Scald it at night and mix with bran in the morning mash.

A morning feed of cooked meat, raw onions, dry bread and potatoes, with enough meal to hold together, will be found excellent. At night feed whole grain.

Exposure to drafts of air while on the roost will cause a rattling in the throat. Give 10 drops daily of a mixture of one part spirits of turpentine and four parts of sweet oil.

The incubator of the present day is perhaps a thing in its infancy, but, to say the very least, it has many points of superiority over the average old hen as a reliable sitter.

An open shed facing south is an excellent place for the fitter. To make the hens scratch, scatter the grain at noon and night in the litter. There is nothing better for fowls than good, wholesome exercise.

Crested oyster shells are excellent for the laying hens. One pound of crushed oyster shells will supply enough lime for about seven dozen eggs. One hundred grains of lime is needed to produce the shell of one egg.

Clover contains seven times as much phosphorus as corn, 10 times as much sulphur, 10 times as much magnesia, four times as much soda, and fully as much dry matter. Every 100 pounds of clover that is digested provides three pounds of white lime.

The American Farmer for March 1, 1894, will contain several illustrated articles on poultry, which will tell you how to set a hen, how to test eggs, how to build coops, and how to feed and care for chicks when hatched. This is the information you need at this season. Don't fail to read it.

To make vigorous chicks feed liberally on foods rich both in albuminoids and carbohydrates; these make flesh, feathers, fat, bones, muscle and tendons. Watch the little fellows for parasites. When you see the chicks drooping or drawn up in a bunch these pests are doing their deadly work.

Hardiness.

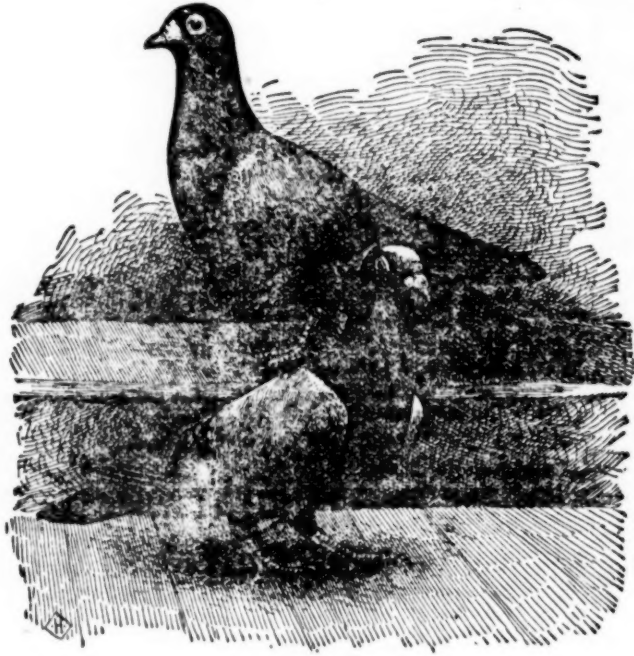
This desirable trait is seriously overlooked by many people who keep fowls. While it may be a difficult matter to secure a breed which possesses all the requisites that are needed for successful poultry raising, yet we can at least endeavor to encourage hardiness in our flocks. Good results cannot be obtained from any breed if it be not adapted to the climate in which it is kept. It is an easy matter to select a breed that will lay more eggs in a year than others, but a flock that has a good, hardy constitution will in the end give a better profit to the keeper. If the breed be not hardy it cannot thrive, Summer or Winter, and should disease once appear the entire flock may be carried off. In raising chicks aim to use hens that are healthy, active and well conditioned, with males that are vigorous. This will promote the growth of the chicks, which will mature early and develop into healthy adult fowls. Continuing this from year to year with new blood, you will build up a flock that will stand the changes of climate, with good results to your fowls and your profits.

THE CANARY.

A Sweet-Voiced Pet of Many Thousand Homes.
EDWARD S. SCHMID

THE CANARY continues to hold first place in the affections of all lovers of birds. Their warblings are as the bright sunshine in the American home to-day; their cheery notes are heard from morn until night, with all their sweetness and harmony. As pets they claim admiration from the entire household, and all are jealous in their care and treatment, for fear that some mishap may befall them, and cause them to stop singing.

Canaries may be mated during the months of January, February, March, April and May. The breeding cage should be from 15 to 24 inches long. Place the male alongside the female, in a separate cage; give them a few days play, say from four to eight days; they will, in that time, gain more affection for



PAIR HOMERS.

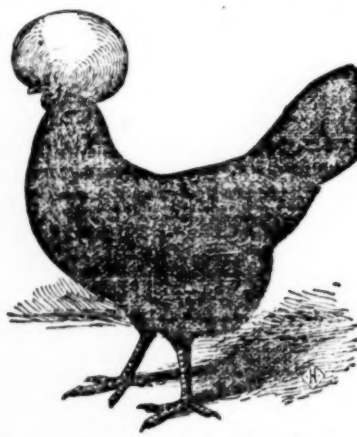
built quite recently by the leading newspapers of large cities for supplying rapid transit of news. The Government is utilizing the Homer for messenger purposes, and is establishing lots and flying stations in many parts of the country.

If well bred and judiciously trained, the distance these birds will travel is remarkable; but perhaps not more so than the velocity of their flight. Journeys of 200 to 500 miles are by no means uncommon, and many "fliers" are on record of from 700 to 1,000 miles. The pace at which Homers pigeons travel, and the distance they cover, is governed by the atmospheric conditions. A mile a minute may be taken as a fair average for long journeys, but short distances may be done much quicker, wind and weather being favorable.

The modern working Homer is bred exclusively for flying purposes, color and markings being totally disregarded in the mating. The stock birds must be possessed of great power and much endurance—properties that can only be proved by their having covered long distances.

White Crested Black Polish.

The Polish fowl is a very useful bird for the breeder and fancier. Aside from their strange beauty, they are considered a general-purpose fowl. They are hardy, good layers and excellent fowls for table purposes. They are a medium-sized fowl, slightly larger than the Hamburgs, with a full, round breast.



WHITE CRESTED BLACK POLISH HEN.

carried well forward. Their backs are perfectly straight, broad at the shoulders and narrowing at the tail, which is upright and well expanded. The crest of the cock is composed of narrow feathers something like those which form the hackle of the neck and saddle. They should rise well in front, so as not to obstruct the sight, and fall over to the back and sides in a flowing mass. The crest of the hen is formed of feathers growing upward and turning in at the extremities, and should be large and globular in form and compact in character, with no sign of parting. In color the Black Polish are a deep black throughout, excepting the crest, which is pure white. The combs are small and are shaped like a V, the upper part retreating into the crest. Polish fowls are divided into two classes—Bearded and Unbearded; the former being the more popular.

A Big Show.

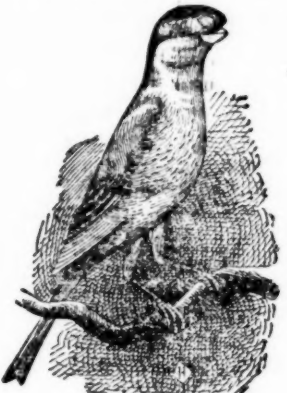
There were 3,000 fowls at the exhibition of the New York Poultry Association at Madison Square Garden, New York City, from Feb. 8 to 13, inclusive.

THE AMERICAN FARMER is only 50 cents a year.

lay, then return the eggs and all will go well.

Three days before the hatching of the first egg feed the bird, in addition to the seed, half a hard boiled egg grated and mixed with cracker dust, or better, some "Bird Dainties," and continue this diet until the nestlings are old enough to take care of themselves.

The young birds when weaned from the old birds should be placed in a cage



CRESTED NORWICH CANARY.

entirely away; otherwise fretfulness is encouraged, which is well to avoid. A wire partition will do for a day or so when they are first separated, so that the old birds can feed them through the wires. When caging-off young birds, give them at first grated egg and cracker, or our "Bird Dainties." When they are about a month old introduce seed into the cage in a separate dish and also a little soaked rape seed, with the view of giving the birds an opportunity of finding out what the seed is intended for. Generally, when about six weeks old, the young Canaries begin to shell the seed, and at that time the proportion of soft food may be gradually diminished until the seed at length takes the place of the egg and cracker. An increase of seed shells upon the cage bottom will be a guide in reducing the quantity of soft food.

When the young birds are two or three weeks old and can eat alone, and sometimes before quitting the nest, the males commence swelling out their throats and trying to warble. The sexes may thus be distinguished, as the female seldom tries to warble, and when they do it is always in a less marked degree than the males.

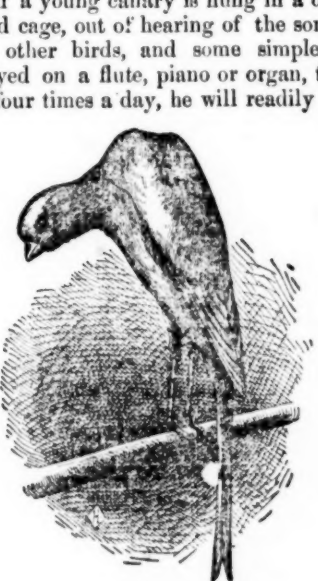
If it is desired to make very fine sin-



NORWICH CANARY.

gers of the young males, as fine as the highly-vaunted Andreasberg Rollers, they should be put in small wire cages, separated from each other, covered entirely over with coverings of muslin, so that they can see no external objects, and yet have sufficient light to feed by. These cages should then be arranged around the walls of a room the only tenants of which are fine-singing birds, such as nightingales, linnets, skylarks, blackcaps, etc., and one or two Andreasberg Rollers, or other trained Canaries. The young birds will acquire the fine notes of some or all of the other birds. Of course, the longer they are kept at such a school the more proficient they will become.

If a young canary is hung in a darkened cage, out of hearing of the song of all other birds, and some simple air played on a flute, piano or organ, three or four times a day, he will readily pick



BELGIAN CANARY.

up all or a portion of it, and add it to his repertoire of notes.

There are various points to be observed and to contend with while breeding canaries. By meddling too much with the nest or eggs, or allowing strangers to pry about your birds during nesting, restless hens will often forsake their nests and young. The young are sometimes killed in the egg by loud or near noises, such as thunder, the firing of a gun, slamming of a door, etc.

A vitiated atmosphere will encourage uneasiness in hens, and sometimes cause them to leave their nests.

Some hens and males will occasionally pick and maim the nestlings. This is usually caused by vermin that irritate them, making them peevish and fretful.

After the young birds are 14 days old it is always best to put them in a clean nest and destroy the old one, which is by this time usually infested by lice.

When eggs are infertile it is, 9 times out of 10, the fault of the male, and another should be secured.

Hens, especially young ones, just prior to laying appear dull, and sometimes so weak as to be unable to reach the nest. When this is the case, apply a little sweet oil on a feather to the vent, and

place the hen on her nest. Holding her over the steam of a kettle for a few seconds also aids in the ejection of the egg.

When the breeding cage is hung in a very warm and dry room, it will be beneficial on the day before the young birds are due to take each one out of the nest with a spoon and dip it in tepid water.

In order to produce handsome yellow birds the male should be a pale yellow, and the female a deep yellow bird. A clear yellow bird mated with a very deep green hen will probably have handsome mottled young. A very deep yellow male mated with a very deep green hen often produce the beautiful cinnamon bird.

Never allow two crested birds to pair, as their progeny are likely to be bald or malformed about the head.

QUESTIONS AND ANSWERS.

Early-Hatched Chicks.—How early would you advise me to hatch Plymouth Rock chicks? I am an amateur in the poultry business, and read your poultry columns with great interest.—S. R., Fort Plain, N. Y.

The old saying "the early bird catches the worm" is equally applicable to the early-hatched chick. We should hatch chicks as early in March as practicable; for they will mature by next October and begin to lay when eggs bring the highest price. They will need more care than if they were hatched later, but will repay you for the extra trouble taken with them.

Bumble Foot.—Can you inform me what is the matter with my Light Brahma hen? She walks lame, and one of her feet is swollen. She has been in this condition for two weeks. Please give a remedy.—H. S., Fredericksburg, Va.

Your Brahma hen is suffering from bumble foot, usually caused by jumping from high roosts or from running on hard ground. The roosts for Brahmas should not be over two feet high, and the run should be plowed. To cure the trouble make a cut like an X across the bottom of the foot, wash with warm water, and rub a mixture of two parts lard and one part coal oil in the incision; or, if you have not the coal oil, bind a piece of rusty bacon over the cut. Place her in a box or barrel, in which put chaff or wheat straw three inches deep, so that she will have something soft to stand upon. Bathe the foot twice a week and apply either of the above remedies until cured.

Lice.—Some of my chickens stand in corners, with their feathers drawn up, and appear to be sleeping all the time. Will you be kind enough to tell me what is the matter with them?—J. B., Salem, Va.

From your description it is almost impossible to suggest a remedy, but we advise you to examine your fowls for lice. There are always lazy hens in nearly every flock, on which lice breed in Winter or Summer. If you find vermin on such hens, dust them with Persian insect powder, place them in a coop, feed on a liberal supply of cornmeal for a week, and eat them; for if you keep them they will spread lice throughout your flock and henhouse.

Colds.—Two of my hens have swelled heads, and are continually stretching their necks and opening their beaks every time they draw a breath. Will you tell me through your columns what is the trouble and how it can be cured?—M. G., Langley, O.

Your hens are suffering from colds, probably caused by drafts through cracks in your poultry house. As fowls usually roost in about the same place every night, notice where the affected hens roost, and you will soon find the crack through which the wind enters, and nail a strip over the hole. Bathe the heads of the fowls in a solution of one tablespoonful of salt and vinegar in a pint of warm water, and then rub the heads with a mixture of three parts lard and one part coal oil; also put a small quantity down the throat. Feed on soft food, in which put red pepper and a small quantity of salt.

Preserving Eggs.—Please give a good recipe for preserving eggs, through your poultry columns, to a constant reader.—J. M., Indianapolis, Ind.

There are a great many recipes recommended for preserving eggs. We believe in the simplest mode, which is equal to any of the recipes containing half a dozen ingredients. Procure a box, keg, tub, or any vessel which can be turned upside down; line with paper; put a layer of salt two inches deep in the bottom, on which place a layer of eggs, small ends down, so that they can not touch one another. Then cover with salt, add another layer of eggs, and so on until the vessel is full. Secure the top. Turn the eggs by inverting the vessel twice a week. The object in preserving eggs is to exclude air and prevent evaporation. The salt is not affected, and can be used again for domestic purposes.

Changes Wrought by Chemistry.

Chemists turn scrap iron into ink, old bones into lucifer matches, the shavings of blacksmith's shops into Prussian blue, fuel oil into oil of apples and pears, the drainings of cow houses into fashionable perfumery, beggars' rags into new pilot coats, cesspool filth into ammonia, and car waste into aniline dyes and saccharine. In Paris, they first utilize rats to clear the flesh from the bones of carcasses, then kill the rats, use up their fur for trimmings, their skin for gloves, their thigh bones for toothpicks, and their tendons and bones for gelatine wrappers. These are a few of the things Iron Industrial Gazette names among the products converted into use by the chemist and inventor.

"Don't Tobacco Spit or Smoke Your Life Away."

Name of little book just received—tells about *Notobac*, the wonderful, harmless, economical cure for chewing, smoking, cigarette or snuff habit. You run no physical or financial risk, for *Notobac* is absolutely guaranteed to cure or money refunded. Your druggist's got it or will get it. Write for the book—mailed free. THE WRITING REMEDY CO., Box 3, Indiana Mineral Springs, Ind. Agents wanted.

THE APIARY.

Humming.

It is stated that in parts of Russia bees Winter well out of doors in spite of the cold, provided the harvest is good. Successful wintering there depends on good food. When the seasons are bad their losses are overwhelming.

Yellow jasmine is a poisonous honey plant, which grows plentifully in the South. The flowers are bell-shaped, light orange-yellow in color, one inch long, and about half inch wide at the widest part of the bell. The leaves are lanceolate, or lance-shaped, and are from three-quarters to one and one-quarter inches long.

A German bee paper says that the sight of the bees is affected by both a dazzling and a dim light. A glaring light on the snow dazzles them, while it is stated that if they are thrown a short distance from their hives in the dusk, the effect is nearly the same. They will circle about and fall without being able to find their homes.

There is no good reason why every farmer should not keep bees. Some of them say they have not time to "fool with them," but why not let their wives and daughters do the "fooling"? Since the farmer furnishes pasture for the bees whether he keeps them or not, it seems only sensible for him to utilize his clover and orchard blossoms.

Dr. Wm. R. Howard (A. B. J.) says he has proved that the queen does deposit eggs in cells containing the dark, coffee-colored dried mass of foul brood. It is the belief of most progressive beekeepers that such is the case, and that honey is also stored, and such cells often capped, and bacilli are thought to live indefinitely in such honey.

A simple recipe was given by Bienen-Vater some time ago for detecting glucose in honey: "Take a tablespoonful of honey to be tested; pour it into a small bottle, and then add three spoonfuls of pure spirit of alcohol, and shake the whole together thoroughly. In about a quarter of an hour there will form in the bottle a cloudy, whitish sediment; and from this one may be sure the honey is adulterated." The test is reliable, as it is found that the alcohol will have no effect on pure honey, but will itself turn a little cloudy, which is no sign of impurity.

ARTIFICIAL SWARMS.

How to Make and Manage Them. How to Find the Queen.

EDITOR AMERICAN FARMER: Where increase is desired, and the apiarist prefers artificial to natural swarms, the question very naturally arises, of the many methods recommended by apiculturists which is the best. We take it for granted that the majority of beekeepers now have their bees in movable frame hives of some approved pattern. If not, our advice would be to transfer them as soon as possible, as there is altogether too much uncertainty in the old-fashioned way of beekeeping to make it profitable to try to manage them so.

If the operator desires a moderate increase only, and has the time to watch his apiary, as good a plan as any will be to let nature take her course, giving all the colonies plenty of surplus room as soon as they can make use of it, and have the swarms as they issue. This plan is used in many large apiaries. For a variety of reasons, however, artificial swarming is often superior to the natural way, or perhaps more desirable. Many times have we known the owner of a small apiary to spend more time in watching for the swarms (that perhaps never issued) than they were worth when he got them. Perhaps a man has a few colonies, and his business takes him away from home. In this case his bees may swarm and, clustering on the sunny side of some tree or bush, hang but a short time and then leave for parts unknown.

Perhaps, all things considered, the best way to make artificial swarms is to wait until it is nearly time for the bees to commence operations themselves in this line. Then select a populous colony and remove one card of brood and the adhering bees, selecting the one on which the queen is found, and place in the center of the new hive. Arrange the frames in their proper position and place the new hive—this should resemble the old—on the old stand. If you have any empty combs insert one in the place of the one removed from the old hive instead of an empty frame, as a queenless colony can usually be depended on to build drone comb only. Or else place the empty frame next the wall of the hive, and then remove the old hive to a new location some distance from where it formerly stood.

In this way we get a large per cent. of the working force of the colony in the new hive. Now, if we have several colonies to divide, and the first swarm has been made 8 or 10 days earlier than the time when natural swarms can be expected, we will have in our old or parent colony a number of queen cells which can be used to excellent advantage. Six or eight days after making the first swarm open the old hive alluded to above, and if we have a number of good cells we will proceed to make other swarms in the same way as the first, being certain in every case to secure the queen with the new swarm and to place the new hive on the old stand to catch the bees as they return from the fields.

The swarms made by this method are in no way inferior to a natural swarm; in fact, they are just one card of brood better off than a natural one.

Now, to obtain the best results with our last lot of swarms, open each old colony 24 hours after the division and destroy all the queen cells that have been started. If this is done in the evening, the next morning we can give

each queenless colony a cell cut from our first parent hive. To perform this operation be very careful not to press on the base of the cell, and do not remove one until sealed over. Have a little box or other small receptacle with a pad of cotton batting in it and place the cells carefully on the cotton, and do not leave them in the sun. Instead of inserting these cells into the comb of the queenless colony merely place them between the top bars of the frames, adjusting the same at the proper distance from each other to prevent the cell from slipping down. This is a simpler method than grafting them into the comb, and has the further advantage of the cell being readily seen. Now, if we insert these cells at the time of division or when we tear down the newly-started cells the bees are almost certain to destroy them, and they sometimes do anyway, but we have inserted hundreds of them in this way with very small loss. It is an excellent idea to have these cells started in our best Italian colony; also, to look into each hive the next day and see if the bees have destroyed any of the cells.

Examine all old colonies 10 days after the cells hatch, or 26 days from the starting of the cells, and look closely for "fresh laid eggs," as many queens will lay before this date, and we would advise killing any queen reared in the swarming season that did not lay by the 16th or 18th day, when honey is being freely gathered. It is often difficult to find a young queen in a strong colony, particularly a black one, and it is not at all necessary to find her in this case if you find eggs.

A few simple methods for finding a queen may not come amiss to the amateur beekeeper, to whom our articles are more particularly directed, taking it for granted that the professional knows his business already. The best time to look for her majesty is when they are working freely. If there are many bees afield, your chance of finding the queen is good. Open the hive quietly, using only smoke enough to quiet the bees, and examine the combs carefully one at a time. You can in the case of the Italian bee hunt as long as you choose and fail to find the object of your search, but the blacks will often boil all over the hive, and even pour out at the entrance and hang in clusters from the underside of the bottom board. Another way is to smoke the bees hard, and drum on the sides of the hive at intervals, for a few minutes, and then pry up the hive cover or honey board and turn it upside down in your hands, and you will often find the queen among the bees that are gathered there. The best way of all, in many cases, or at least a perfectly sure way, is to take a strip of "excluder" zinc or a drone and queen trap across the entrance, and then shake the bees from the combs on a sheet in front of the hive; replace the combs, close the hive, and leave them to solve the problem themselves. After the bees have crawled through the openings in the zinc, you will find the queen looking for a little larger hole than any she has as yet found, and her capture is certain.—J. A. NASR.

Demoralized Bees.

"We have no honey at our place this season," said a Market street merchant, residing in the suburbs. "Last Winter a distillery was set up in the valley below us, and last Summer all the bees in the neighborhood resorted to it and became grossly dissipated. Instead of buzzing about among the flowers they hung around the rum mill and spent their entire time in getting intoxicated, thousands of them falling to the ground and lying there in drunken stupor. The usual consequences have ensued, of course; their homes have been deserted, their families broken up, their savings wasted in riotous living, their lives made miserable, and their usefulness in society destroyed. Many have gone down to drunkards' graves, and those that remain are idling about the hives like disreputable old bums, with Winter here and starvation staring them in the face. Meanwhile we are short of honey, and I have got to buy some to try and keep the scamps alive, and give 'em a chance to reform."—*Boston Commercial Bulletin.*

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75TH YEAR.

THE AMERICAN FARMER.

"O fortunatus numerus et bona sortis agmina."—VIRG.

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Greeting: This paper is sent you that you may have an opportunity to see it and examine it, with a view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it; that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the paper.

OUR CLUBBING LIST.

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We will send THE AMERICAN FARMER and any other paper or magazine in the country at a reduced rate for the two. The following is a partial list of the periodicals that we club with:

Name of Periodical.	Regular Price.	With The American Farmer.
Penny Post	10	25
Our Little Men and Women	1.00	1.25
Workingman's Magazine	2.50	3.00
Babyland	1.00	1.25
The National Tribune	1.00	1.25
American Gardening	1.00	1.25
Goody's	3.00	3.50
The Young Sportsman	50	85

A POSTAL CARD COLUMN.

A year ago we offered an opportunity to our readers to send us postal cards, giving criticisms, advice, experience, asking information, offering suggestions, etc. No one seemed willing to start them. We again propose the scheme, for the reason that the year 1893 had many lessons for the thinking stockman, and we have reason to believe they were well learned. Why not exchange views on these topics as we go along? Tell of your own trials, successes and failures. No names will be given, if desired.

THE RECEPTION OF THE VERY ADMIRABLE "First Biennial Report of the Maryland State Weather Service for the Years 1892 and 1893" moves us to comment upon the excellence of this important institution. Maryland is peculiarly fortunate in it. No other State has a better Weather Bureau, and we sometimes doubt if there are any quite so good, so intelligently conducted, and of so much practical value to every farmer. It is fully abreast of the most advanced conditions of the science, and promises to keep so. The report before us deals with the "Climatology and Physical Features of Maryland" in a very interesting and comprehensive way.

FREE Traders prate constantly about "preferring low taxes to high taxes." But they cannot show a single instance of where any man's aggregate annual taxes and expenses will be lowered by their scheme to cut down his income. The \$72,000,000 which they propose to take out of the customs revenue will have to be made up by taxation of a more oppressive and grinding kind.

SIGHTS AND SCENES OF THE WORLD.

Part 5. Number 5. NUMBERS CHANGED EVERY ISSUE.

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CUT THIS OUT.

THE TARIFF BILL.

The Wilson Bill has been in the hands of the Senate Committee on Finance for about two weeks now, and yet the committee is not ready to say when it will be able to report it. This gives some hopes that the bill will be radically changed before it is presented to the Senate. The committee has declined to hear any representatives of the various interests affected, saying that this would be merely going over the work of the House Committee, and also that the Senate Committee has received abundant information from the responses to the circulars it sent out. But this has not prevented the individual Senators from being interviewed by delegations from the interests and representations being made to them which will have a strong influence.

The most hopeful sign, so far as the farmers are concerned, is that the Senators seem inclined to consider the emptiness of the Treasury and modify the bill so as to fill it, instead of further depleting it. This imperative necessity was ignored by the House demagogues in their hunger for the applause of the Populists and Socialists.

As we go to press the indications are that the bill as reported to the Senate will strike wool, coal, sugar, iron, and lead ore from the free list, and impose a small tax on them for revenue purposes. This will have to be done unless it is intended to run the Government deeper in debt every month, and keep up a continual sale of bonds to meet current expenses. The Wilson Bill, as it passed the House, will fall many millions short every year of supplying money enough to meet the current expenses of the Government. As a revenue measure the income tax will be a delusion and a snare. Whatever may be thought of it in theory, it will be a failure in practice, and probably cost nearly as much to execute it as it will bring in. Every neighborhood furnishes evidence of how successfully rich men evade such plain, straightforward taxes as those on lands and goods, and from this it can be seen how little chance there will be of collecting on such intangible, uncertain things as incomes. They simply will not pay it, and there is no way in which they can be made to pay it, without a disruption of and annihilation of business. It is the middle-class people who pay the taxes, and the wit of man has never devised a way in which the very rich can be compelled to pay their share. For example, the State of New York has probably the best executed tax laws of any State in the Nation, except Massachusetts. They are the result of long study and experience, by the ablest of practical business men. A tax law in New York will be more thoroughly executed, bring in more money, and have fewer evasions than anywhere else in the country, except in New England. Now for an illustration: Two or three years ago the Board of Assessors in New York City reported that, after making all deductions, there was \$1,500,000,000 worth of personal property that should pay taxes. They actually collected on \$225,000,000, or something over one-seventh. This meant that the people who had a few thousand dollars' worth of personal property paid their taxes in full, while those who had millions employed skilled lawyers and took other means to avoid paying. It will be infinitely worse with the income tax, because it is not nearly so easy to get at. We are anxious to see the income tax experiment tried, given the fairest kind of a trial, so as to satisfy the very large element that is demanding it. But we warn them that it will be a failure, and we are doubtful if it will pay the cost of execution. If it does, its whole expense will be borne by people of moderate incomes, those having regular salaries which are in sight. The men whom it is intended to reach will never pay enough to meet the salaries of the bureau clerks in Washington.

A revenue duty on wool and sugar, and some other articles, is therefore a necessity, and the hope of the country is that the Senate will have the good business sense to understand this.

CONTINUE TO FIGHT IT.

Should the iniquitous Wilson Bill pass the Senate, we must continue to fight. We must appeal to the people of the United States, to the farmers, to see that men are sent to Congress next Fall, who will undo this great wrong, and give the farmers their rights. THE AMERICAN FARMER does not propose to relax its efforts as long as \$1 is sent abroad which belongs to our own tillers of the soil.

THE GREATEST GOOD TO THE GREATEST NUMBER.

EDITOR AMERICAN FARMER: In answer to some of your arguments on the Wilson Bill, in your last issue, I would like to know if the motto of this Government is not the greatest good to the greatest number? Then, we will take wool first. Every child when first born is wrapped in woolen and it wears it all through life and is buried in it when he dies. This is the case with every child born in the United States. Now, must they all be taxed to protect the few farmers who are engaged in wool growing?

The same may be said of sugar. I have raised sugar in Louisiana some years ago and I have kept sheep here in Hartford County for the past 30 years, but have never wanted a tax to protect me. I might grow rich at the expense of my neighbor, who has no sheep. Knowing full well it would go into the pockets of the manufacturers and not to the hands who do the work, who work hard, live poor and fill paupers' graves when they die, whilst the owner of the mill lives in luxury in his city palace in Winter, and in his cottage at some of our fashionable watering places in Summer, or goes to Europe with his family to spend the money he has kept back from his hard-worked hands, money which each and every consumer of his goods has been taxed to supply him with. I am not a believer in such doctrine, therefore I wish you to strike my name from your list of subscribers, as I want an agricultural paper and a low tariff one at that, and not an organ for manufacturers and monopolists.—Wm. MUNKIKUTSEN, Hartford County, Md.

Emphatically the motto of this Government is "The greatest good to the greatest number," and that is the motto of THE AMERICAN FARMER. That is why we are ardent Protectionists. We are for the greatest good to the greatest number of American farmers, and through them to the whole people.

When we see \$400,000,000 a year in gold going out of this country for farm products which should be raised on our own soil, we are moved to sorrow and anger that our own people should be thus robbed for the benefit of foreigners who bear none of our burdens, who buy almost none of our goods, and who do nothing but drain us of our money.

We see in this ruinous policy the cause of most of the difficulties and embarrassments under which the farmers and the country labor. If that \$300,000,000 a year could be kept at home and distributed among our own farmers, how it would change the face of everything for the better. Think of what it would do toward lifting the mortgages, of which we hear so much; toward making agriculture profitable; toward making farmers' homes abodes of contentment and plenty; toward swelling the volume of circulating money!

Is it not amazing that we have any prosperity at all, when we send out of the country every year more than \$400,000,000 for farm products?

What other Nation could stand such an enormous drain upon its money and its resources? It is amazing that this has not long ago brought National bankruptcy.

England is the only country that pretends to do it, and she does it because she decided to sacrifice her farmers to her manufacturers. She had the excuse, however, which we have not, that her farmers could not begin to raise all that her people needed to eat, and the people from whom she wanted to buy farm products were her customers for manufactured products.

It is simply criminal for us to sacrifice our own farmers when we can gain no advantage whatever by so doing.

Our correspondent's assertion that all the benefit of protection on wool goes to the luxurious owners of the mills, is simply incorrect. Protection to the farmer is one thing, and protection to the manufacturer quite another. The farmer gets his share and should look out that he does get his full share. And suppose that a trifle more is added to the cost of the wool in which the baby is clothed and the corpse swathed, this is made up more than a thousandfold by the cheapening of other things, and the advantages which the babe will have and the corpse has had from a prosperous farming community.

Our correspondent makes the common blunder of assuming that if the duties are taken off wool, sugar, etc., that they have disappeared as exactions upon the people. If the Wilson Bill should pass, he will be painfully taught his error, because he will find that the taxes will reappear in forms and manners vastly more odious with a greatly decreased ability to pay taxes.

GET UP CLUBS.

The best way to fight the Wilson raid on the farmers is to get up clubs in every neighborhood for THE AMERICAN FARMER. Let every man whose interests are attacked by this wicked measure, get four of his neighbors to join him in sending \$2 for five yearly subscriptions to the paper. This will make a very cheap subscription to a very good paper, and be beside a contribution to a campaign fund for the great fight for farmers' rights.

WRETCHEDLY UNAMERICAN.

It is singular with what unanimity the advocates of the Wilson Bill seek to discredit their own country and its farmers. The first argument that comes to their lips is that we cannot raise as good articles in this country as foreign farmers. Lockwood was quite sure that our barley was never so good as Canadian barley, and persisted in this declaration against proof offered by several Representatives, that the barley raised by their constituents was equal to any in the world. It was the same with tobacco, fruits, wool, etc. The Boston Herald has this fling at Pacific Coast prunes:

We are not disposed to interfere with any one who is disposed to eat the California prunes, and we wish this fruit all success with those who like its quality, but we are inclined to object to the Nation being restricted to California prunes alone. Those who have compared them with the fruit raised in Europe can hardly have failed to recognize a decidedly inferior flavor in the American article.

The un-Americanism of all this falsehood is sickening. There is nothing that our soil produces that is not fully equal to that produced abroad. In very many agricultural products the superior skill and intelligence of our farmers have developed excellencies that place them far ahead of their foreign competitors. We are confident that given the opportunity our farmers can surpass those of any other country in any product they can raise.

EVERY Secretary of the Treasury—Federal, Democrat, Whig, and Republican—from the foundation of the Government down to the beginning of the present Administration, except Robt. J. Walker, has protested against the un-wisdom of *ad valorem* tariff.

THE Montana sheep raisers say that they see nothing ahead but ruin if the Wilson Bill passes. In 1892 they received an average price of 16 cents a pound at the ears for their wool. In 1893 it was only eight cents.

TWO LETTERS FROM POLK COUNTY.

What the Country is Like in that Part of North Carolina.

EDITOR AMERICAN FARMER: Not seeing anything from Lynn, N. C., I will inform your readers of this noted health resort. It is in the southern part of Polk County; squeezed down between the mountains, it is not strange that it is little known to the outside world.

Lynn is one and five-eighths miles from Tryon, a small station on the Richmond & Danville Railroad, near the famous thermal belt region that extends from the foothills half way up the mountain sides. Lynn is always attractive for the Northerner in Winter and the Southerner in Summer. The air is dry and health restoring.

Prices range from \$16 per acre up to \$125 per acre for the best bottom land, where corn, oats, wheat, rye, and clover can be grown to profit. The mountain sides are covered with timber from foot to summit of different varieties. Dairying can be carried on to an advantage. Wages are 75 cents by the day, and \$12 to \$15 by the month for farm labor. Horses are worth \$100 to \$150 per head. Milch cows, \$20 to \$30; other things in proportion. Come South, our Northern friend, or to Polk County, where you will find welcome and several gentlemen permanently settled from your native States.—GRANT ARLEDGE, Lynn, N. C.

EDITOR AMERICAN FARMER: I live in the old North State and am proud of my country. We have some fine mountain views here that would interest your readers if they could see them. I think every farmer should take your paper, as it is the best of its kind published in the country.

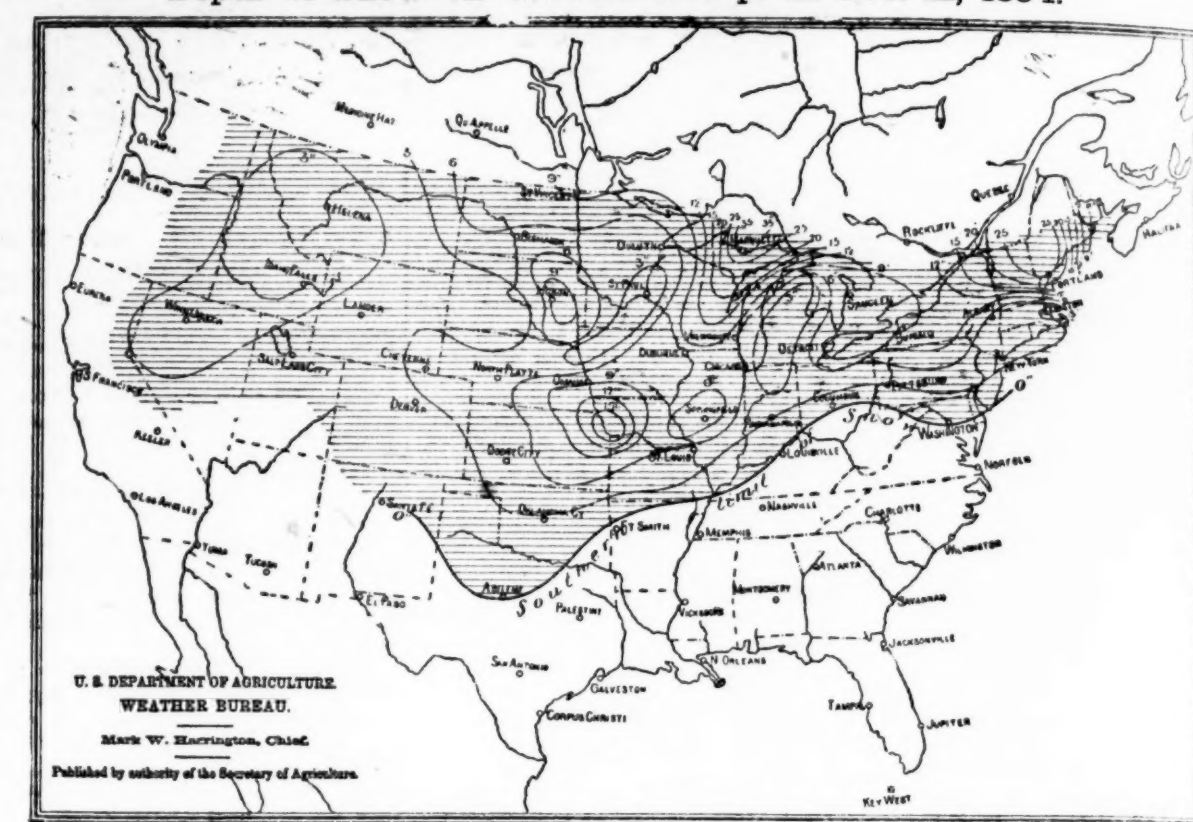
To those who are making inquiries as to cheap land in this State, there are hundreds of acres all here in Polk County with timber enough on it to three times pay for it. The water is good and the country is healthy, and garden vegetables are excellent; also wheat, rye, oats, clover, and all kinds of grass. Stock raising is profitable. The soil is black and red land, mostly level, and the remainder is very rolling, but it can be plowed, and produces well.

The temperature seldom gets below zero in Winter nor above 95 in Summer. Improved land is worth from \$10 to \$12 per acre, and the \$3 land is owned by a company. We want men in this County who will help improve it. Northerners who have come here all like it. It is a good place for a man with money, but no one must come expecting to find it on bushes or grab a gold mine.—BILL HAYSEED, Saluda, N. C.

Odd Theory of Petroleum.

The rather interesting theory is held by a Russian geologist that petroleum is produced by water which penetrates the earth's crust and comes in contact with glowing carbides of metals, especially of iron. The water is decomposed into its constituent gases, the oxygen uniting with the iron while the hydrogen takes up the carbon and ascends to a higher region where part of it is condensed into mineral oil, and part remains as natural gas to escape wherever and whenever it can find an outlet.—Mechanical News.

Depth of Snow on Ground at 8 p. m. Feb. 12, 1894.



WASHINGTON, D. C., Feb. 13, 1894.

Over portions of southern New England, the central Ohio valley, the northern portion of the Lower Michigan Peninsula and the central Rocky Mountain slope, there is somewhat less snow than was reported last week. Upon the whole, however, the area covered and the depths reported at 8 p. m. Feb. 12 are greater than for the previous week. From Missouri and southern Iowa westward over Nebraska and Kansas, where no snow was shown on the preceding chart, the ground is now covered with depths ranging from 3 to 15 inches, the southern limit over this region being from 300 to 600 miles southward of that for last week, while from the confluence of the Missouri, Mississippi and Ohio Rivers eastward to the east line the southern limits for this and preceding week are practically the same.

Probably the most noteworthy feature of the current chart is the very small quantity of snow, from one to three inches, over the northern portion of the Lower Michigan Peninsula, where the depth at this season is usually large; in the southeastern portion of the State, however, the ground is covered with from 6 to 10 inches.

Compared with the chart for the corresponding week of 1893, it is shown that, while the southern limit for the week ending Feb. 12, 1894, generally extends much farther south than last year, the depths over the more northerly districts from the upper lakes westward were greater last year than now. Over the central portions of the country from Nebraska and Kansas to New England there is now decidedly more snow on the ground than at the corresponding date last year.

MARK W. HARRINGTON, Chief of Bureau.

Sheep Raising in the Great Southwest.

EDITOR AMERICAN FARMER: Sheep when they are properly taken care of pay a good profit. They are one of the most important factors of keeping up the fertility of the farm. But they should be good breeders and possessors of good constitution. For the average farmer of the "Great Southwest," good medium wool and good mutton can be secured at the smallest outlay, and will return a good profit. It is very difficult to raise the extremely fine wool sheep and secure good health and hardiness. The great part of the sheep kept over Winter should be good ewes. If early lambs are wanted they should be bred early, but unless the farmer is so situated as to provide good, dry, warm sheds or quarters, with good, liberal feeding during the Winter, and is close to a good market, the raising of early lambs should not be undertaken. Later lambs, any time, say, November or December, will do for breeding the ewes. But select a good full-blooded ram, well matured, and in thrifty condition. The ewes should be two years old, of good size, form, and condition. This is one of the most essential points in the raising of thrifty lambs; for it is best at all times to have your sheep in a good condition in the Fall.

Good growth of wool cannot be expected of poor, half-fed sheep with poor shelter. With fair management the fleece ought to pay for the keeping of the sheep. You will receive a yield and quality of wool according to the keeping and condition of your sheep. It is a fact that keeping poor sheep shows a loss, and always when the prices are low; while the keeping of good sheep will almost always give in return a fair profit.

You will hear some say that sheep do not pay. In nearly all cases those who claim this are the ones that keep poor sheep, and in the cheapest mode possible. Give your sheep plenty of pasture and let them run out every day that the weather will permit. This makes them thrifty. But provide plenty of good shelter for them in the Winter season. Good pasture is one of the essentials, and the cheapest food and the best for them. Yet it is essential to supply them with the best food during the Winter, when the pasture is not good.

Two thousand dollars will start one in the sheep business very well. But it is all according to the location and the price of land and sheep. Lay out \$1,000 in sheep, the other in land and feed. At \$2 per head you can buy 500 head. There are about 4,400,000 acres of public lands in Texas. The most of it you can get for from \$2 to \$5 per acre. Some are subject to be homesteaded. You can almost pay right down all on your farm of 640 acres, at \$2 per acre, with \$1,000. Then you will have five years to pay the balance; or you can pay half to pay the balance; the reason the Southwest is such a good sheep country is on account of the mild weather, which takes less feed for stock. The great Southwest had in 1893 29,275,566 head of sheep—value, \$77,087,005; while the New England and Middle States only produced 5,169,416 head—value, \$18,310,895. This ought to prove that the Southwest is one of the great sheep and wool producing countries of the United States, which she is.

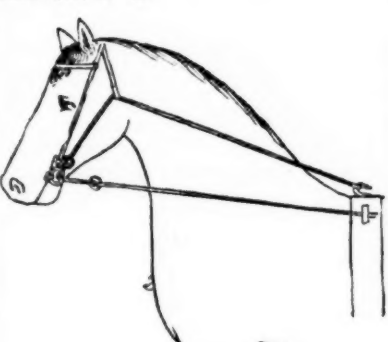
There is no truth in the report that the people of the South and Texas will not live on friendly terms with the people from the North, and especially Republicans. They are the most sociable and friendly people that one can meet, and make everyone feel like he is at home in their midst. They have no ill feeling against the people of the North. You find plenty of Republicans and people from the North in this section.—W. L. MOORE, Pilot Point, Tex.

Get up a Club for THE AMERICAN FARMER.

A HUMANE CHECK REIN.

A Wisconsin Farmer's Device to Do Away With the Barbarous Old Affair.

Mr. I. Z. Merriam, of Whitewater, Wis., has devised a bit and check rein which is receiving much favorable comment from horsemen. The cuts give some idea of it.



Horse "on the road," with his head in a natural and easy position for traveling.

The driving reins and check line are continuous, and instead of being fastened rigidly to the bit, they pass over a small pulley at each end of it.

The part which runs on the pulley is about a foot long and is made of round leather. A ring at each end of this round part of the rein acts as a "stop," and prevents its passing further through the pulleys.

Accordingly, when the reins are taken in hand and drawn on, the horse's head is lifted till the bit comes to the upper ring, when the pull becomes direct. On hitching the horse, or at any time when the rein is slackened, he can drop his head till the lower ring strikes the bit, thus giving all the ease of an unchecked rein.



Horse "taking it easy," with a slackened rein when walking or standing or when going up or down hill.

The invention has been patented.

COMPLIMENTS.

I think that your paper is very instructive, and should be read everywhere.—JOSIAH C. FRY, Southboro, Mass.

I don't know how you could improve your paper for the price of it. Like another subscriber, I would like it in magazine form, so as to preserve it, and would willingly pay twice its price for such a form. We differ with you on the silver question, as we are a silver State; but on the tariff we heartily concur. You are making a good fight for the rights of the down-trodden farmer, and you should have the hearty support of every true American. Our Winter has not been cold, but very wet, it having rained eight days in January. There has been but little snow, and only 10 degrees below zero.—J. W. GOODSON, Stevensville, Mont.

War on Oleomargarine.

County Detective Frank Campbell, of Uniontown, Pa., has begun a war on the oleomargarine dealers. He has entered suit against about 25 dealers. All the dealers have taken the precaution of getting a Government license, so that the State fine of \$100 each is the only punishment that can follow. It is estimated that there are 200 dealers in the County selling the stuff, and probably that many suits will be entered.

PERSONAL.

Col. James Young, the farmer king of Middletown, Pa., has been reappointed a member of the State Board of Agriculture by Gov. Pattison.

National Lecturer Mosser has visited all the State Granges except Maine during the past few weeks, and reports them all in a flourishing condition. He went to Delaware last week for a series of meetings, from there to New Jersey and then through Vermont.

Prof. J. S. Newman, of the South Carolina Agricultural College, acting Director of the South Carolina Experiment Station, has resigned, and his resignation has been accepted by the Directors. This occasion a great deal of surprise, as Prof. Newman has made a fine record, and is acknowledged to be one of the foremost agricultural scientists of the South. He went to South Carolina from Alabama, where he had built up quite a fine reputation. In a newspaper interview the Professor claims that the whole trouble is due to politics, and the work of Gov. Tillman, who took a dislike to him owing to difference arising out of State Alliance matters. Prof. Newman has gone to his home at Edgewood, near Atlanta, Ga., where he will devote himself to agricultural literary work and the cultivation of fruits, flowers, and vegetables.

Ephraim Howe, for many years Treasurer of Marlboro Grange, P. H., Marlboro, Mass., died at his home last month, and the Grange took charge of his funeral, which was very largely attended.

Hon. H. C. Ireland, the noted horse breeder, of Chillicothe, Mo., suffered a severe loss on the morning of Feb. 4 by the incendiary burning of his two large barns and 46 head of valuable horses. His loss is estimated at \$10,000.

W. B. Coleman, a farmer of Crawfordville, Ind., brought suit against his drawfords wife for \$7,500 damages, which ended in a verdict for the plaintiff. He charged his ex-wife with vandalism. After the divorce the woman, who had inherited a fortune from her father, bought an adjoining farm. His house was burned, then two barns, with a number of horses; 100 fat hogs were poisoned with powdered glass, and as a crowning act, 200 chickens had their necks wrung one night. The trees in his young orchard were girdled, and his buggy was cut to pieces. He finally obtained evidence that his ex-wife, unassisted, had committed all these crimes.

The Louisiana sugar planters sent another committee to Washington last week, to make a renewed effort to save the sugar interests of the country from the blow contemplated by the Wilson Bill. It consisted of Messrs. John Dymally, Henry McCall, J. B. Levert, H. C. Warnoth, and F. B. Hoffman.

NEW PUBLICATIONS.

PARLIAMENTARY TACTICS; or, Rules of Debate. By Harry W. Root. Published by the Scientific Publishing Co., New York. Price 50 cents.

This is an exceedingly handy little compilation of the rules governing deliberative bodies. It is bound in flexible cover, and has a cut-price index, so that any question arising can be instantly referred to.

Notes.

The Phenological Journal and Science of Health. "An illustrated magazine of human nature." Edited by the Fowler & Wells Co., 27 East Twenty-first street, New York. Price 15 cents, or \$1.50 a year.

The leading features of the *Compendium* for February are a novel by Amanda Paludo Valdes, and The Great Naval Fight between the Melan and the Penitence. Published at New York. Price 15 cents.

Edward Bok's successful article in the January *Compendium* on the Young Man in Business has been reprinted in a tasteful and handy booklet form at 10 cents by the Curtis Publishing Company, of Philadelphia. To this reprint Mr. Bok has added some 14 pages of editorial matter answering Three Uncertain Young Men.

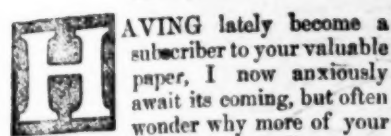
Germania, a monthly magazine for the study of the German language and literature. Published at Manchester, N. H. Price \$2 a year, or 20 cents a number.

The best praise that can be given for D. M. Ferry & Co.'s Seed Catalog for 1894 is that it is even better than any of its predecessors. D. M. Ferry & Co., the well-known seedsmen, are located at Detroit, Mich.

The Overland Monthly for February is devoted chiefly to the history and description of the Northwest. It opens with a group of poems of places in Oregon and Washington, each poem illustrated from photographs of the place described—river, or mountain, or forest, or harbor, or town. The group shows the beginnings in the Northwest of that same disposition to poetic patriotism that has been so marked in California. Ella Higginson, Herbert Rushford, and other young Washington poets who are beginning to be known far outside their own State, are represented here. Published at San Francisco. Price 25 cents.

A HOME IN VIRGINIA.

What a New York Farmer Has Done in the "Old Dominion."



HAVING lately become a subscriber to your valuable paper, I now anxiously await its coming, but often wonder why more of your neighbors do not contribute more information to the merits and demerits of the surrounding country adjacent to the National Capital, and the home of THE AMERICAN FARMER, as I now have a personal interest near there, and want to see if my neighbor's views coincide with mine.

In traveling through Virginia at different times I became very greatly attached to the State, and often wondered why so many go to the "Far West" to seek homes and endure blizzards, droughts, and the many other drawbacks there have to encounter, while nearer home there is so much waste land lying idle that can be purchased for very nominal sums, with soil equally as good, and best of markets, with the facilities for reaching them far superior; besides living in a civilized country, where a few hours' ride will take you to the largest cities in the Union.

Having been brought up on a farm, though leaving it while a mere boy, as many boys are prone to do, and often regret the step, yet I have never lost interest in "farm life," and have always taken several agricultural papers and kept myself fairly posted on farming. Years ago I made up my mind if I ever bought a farm it would be in Virginia; so about two years ago I took a trip to Washington, interviewed a few real estate agents, and with one drove over in Virginia. I told him I wanted to buy a cheap farm, the land being more of an object than the improvements, as I preferred making the improvements myself. He said he thought he had a farm of 120 acres in Fairfax County, Va., about 12 miles from Washington and six miles from Alexandria, that would suit me. So we drove to the place, and as soon as we drove on the place I was very much taken with it, and the consequence was before night I bought it and did not go to look at another, and so far have never regretted the purchase. There was only about 50 acres of cleared land and that, most part grown to bushes; no buildings except a small barn. My next move was to try and secure the right kind of a man that I could trust to go on and clear the place and put in some crops, knowing I would not be able to visit the place over four or five times a year. So I put an advertisement in *The Country Gentleman*, and from the many answers selected one, and had him move down without seeing him. He is still with me, and on the place, and has proved a good, sober, honest, and satisfactory man, who is blessed with a good sensible wife who understands farm life, which is half the battle in making a man contented with his home and labor. That is now two years ago. Since then I have built a very snug five-room house and a new barn. The barn is 40 x 50, and I think a model of its kind, and I wish some of my Virginia neighbors would visit my farm and give me their opinion. It is situated one mile from Lincoln, and I have named it "The Capital Stock Farm." The north end of the barn butta against a bank, where we drive in on the first floor; the lower story has nine foot posts. On the outside I have my cattle, and all of the latest improvements, having the Buckley watering system, so that each cow has a basin of pure water in front of her at all times, and as soon as it is drunk out it fills itself by an automatic invention. The water is brought to the barn from a spring about 400 feet distant, and has about 25 feet fall. My horses are on the north side, and all my sheep in the center; they are all fed from the upper floor. I have running water in the sheep department, and running water in a large trough in the yard. My land do not have to go out doors to feed or water any of the stock. This has all been done at a very moderate outlay. Last winter I had a portable mill come to my farm, and the lumber was all sawed from my own trees. My stock now consists of 10 head of registered Jersey cattle—nine cows and heifers, and one bull, all of the best milking strains, and registered; five head of horse kind; three head of registered Berkshire breeding pigs; Pekin Ducks and Brown Leghorn chickens; with 22 head of sheep. I do not intend to keep anything but pure-bred stock, and as soon as I have any to sell I hope an advertisement in THE AMERICAN FARMER will induce some of the Virginians to come and secure some, and try and breed up instead of down, as the majority of them seem to be doing now. I selected this farm for its good soil and its excellent water, and the easy facilities to obtain it. There is a large brook along one line for nearly half a mile, besides several living springs. We are clearing more land as fast as convenient, and doing all we can to add to the fertility of what we have cleared.—D. B. HERRINGTON, Poughkeepsie, N. Y.

To Hop Raisers. EDITOR AMERICAN FARMER: Will some one please give his experience in hop culture, relative to distance in planting, staking, cultivation, drying and baling, and oblige—A SUBSCRIBER, Terre Haute, Ind.

To Cure a Sty. Take the white of an egg on a saucer and rub into it a pinch of powdered alum. Put the curd between two fine pieces of muslin lawn, and bind it over the eye before retiring for the night. In the morning the sty will be gone or much better. One more application will be sufficient, and no more sties will come.

ANOTHER ILLINOIS FARMER.

He Takes Issue With Mr. Kief's Conclusions.

EDITOR AMERICAN FARMER: In your issue of Feb. 1, I note an article written by Phillip Kief, of Benson, Ill., "Views of an Illinois Farmer." If agreeable to you, I wish to point out a few mistakes the gentleman has made. He says James G. Blaine was the greatest statesman in America. If he honestly thinks so, he should quote him correctly. He says Mr. Blaine pronounced the McKinley Bill as class legislation. Mistake No. 1. Mr. Blaine said the bill was framed in the House Committee on Ways and Means, and as it came to the Senate, was class legislation; which was correct. But he never said the bill as amended by the Senate, with reciprocity amendment added, and the power given in it to the President to carry out its conditions, was class legislation, for the reason that it was about what Mr. Blaine wanted. Mistake No. 2. He says wool is 14 cents per pound, and woolen goods are as cheap as ever. Is that true? Wool last season was 22 to 26 cents per pound; this season, 14 to 16 cents per pound. It is about 10 cents a pound cheaper; and it takes about four pounds of wool to make a common suit of clothes. Therefore, a suit of clothes should cost 40 cents less now than last season, and no more, as these woolen goods now being sold were made last season. But what are the facts? I have before me a circular from the Andrews Clothing Co., stating they will sell all winter clothing at a cut of 25 per cent. on a year's time without interest. (They are located in this city.) You see that is a cut of \$1.25 a pound. Blankets are offered here for 95 cents, \$1.75, and \$3.25, that sold for 98 cents, \$2.50, and \$5 this fall. These are no bankrupt stores, but first-class houses, and can fill their orders. Are these prices cheaper or not? How low does the gentleman wish prices to go? Does he wish the goods given to him, as hundreds of others who voted the great reform ticket, and are being sustained by the charity of those who did not? We, as farmers, should remember that we are not the only people who are interested in the great financial and tariff problems of the day. He also mentions that wheat, plows, binders, wagons, cost just as much. Does he think wheat should come down—that it is too high? Strange for a farmer! Mistake No. 3. Wheat sold in 1864 (30 years ago he speaks of) for \$1.40 per bushel, in currency, or gold 65 cents, the same basis as we have now. Wagons sold for \$75 to \$90, now they can be bought from \$47 to \$60, and wheat is worth in Chicago 60 1/2 cents in gold.

Binders a few years ago sold for \$325, now they can be bought for \$80 to \$135; it depends on the competition. Plows that used to sell for \$22 to \$24, now for \$12 to \$13. A great many farmers refer to the large profits made by them during and immediately after the war. Were the profits greater then or now? I speak of this, as Mr. K. refers to the prices of land 30 years ago in Green County, O. The price in 1864, in currency, was, he says, \$60 to \$80; then, if you had paid for it in gold, you could have bought it for \$26.40 to \$40.20 per acre. So you see from his own prices land is worth 15 per cent. more now than at that time. We all know that lands in the Eastern States have been lowered by the opening up of so much cheap lands in the West, and Mr. K. would make us believe it was worth only one-half as much. I now insert here a letter received from one of the best-informed men on prices of land in Xenia, Green Co., O.:

In reply of yours of the 1st, would say that in 1860 our Assessors valued farm land at an average value of \$32.75 per acre without buildings; including buildings \$38.70 per acre. We thought at that time that was not more than three-quarters the actual value, and they are no lower now. A few very poor farms, considered run out, have sold as low as \$28 to \$30 per acre. Others, again, good farms, have sold as high as \$90 to \$100. It is true, and I would not go back more than 10 to 15 years, that the average for farm lands was \$75, now \$50; but I would not charge it all to wool. Of course, the wool industry of this country is knocked out for the present at least. Last year, in view of the proposed reduction in tariff, we had to take one-third less for our wool—16 cents, instead of 25 cents per pound, which made a big shortage in the receipts of the farm; as all farm products were depreciated except hogs. So you see it is not all wool that is the cause of it; and yet I am not a free trader.

You see the above letter only confirms what I have said before. Land at an average of \$70 currency then in the same currency now, or gold at the same premium, would be worth \$91.71. Mistake No. 4. And he makes a bad one when he calls the farming community hayseeds. It may be appropriate for some that he is acquainted with, but it is in bad taste to apply it to men who are as well educated and as well posted in their calling as any other class of men in the country, and also in all

that pertains to farming and all financial and economical questions of the day. The progressive farmer does not loaf on the corners of the village streets and grumble at the moon or other things; but he pushes his business and creates new ideas in his busy life. Mistake No. 5. Mr. K. says let the prophet explain why Ohio had more sheep 30 years ago, three to one, than she has now. The gentleman should put himself before going in print. Ohio had (refer to book on animal industry, published 1893 by U. S. Government) 5,560,318 sheep, valued at \$9,345,819; in 1892, 4,378,725 (New York World's Almanac); 1893, not reported yet, but there was quite an increase. In 1890 she had 3,943,598 sheep, valued at \$11,909,638. So you see that with less in number in 1890 by 616,720, the value was \$2,563,819 more than in 1864. You see that his reasoning that raising sheep under a tariff reduces the price of sheep, and also land, is not true. Mistake No. 6. Mr. K. says if a farmer borrows money from the East (or West, I suppose, he includes) it is never from a farmer, and he says a Western farmer has no money to loan. A short time ago a farmer in Illinois said he had made off his farm and loaned \$15,000. He probably knew what he was saying. The truth is, Mr. K. never made a worse mistake. A great deal of money that comes West belongs to farmers, and is loaned through trust companies, investment companies, loan agencies, etc. If he will go to any National bank and ask as to the class who have the largest deposits, if he can get an answer he will be told, as I was a short time ago down on the Illinois River, "We have \$90,000 on deposit in our bank, and \$65,000 belong to the farmers." It is so everywhere in small towns in Kansas, as well as in Illinois. Large numbers of National banks are owned principally by farmers. I know many farmers are large loaners of money, and made it farming.

If the gentleman writes to enlighten the public, he should write what is plausible, and then he will be listened to with confidence. I suppose some who do not know to the contrary believe that Ohio had three times as many sheep 30 years ago than now; that binders cost \$325, and all other things are on the basis of gold at a premium, as in 1864. Do not believe all you read.—JOSEPH T. MILLER, Sterling, Ill.

A String of Questions. EDITOR AMERICAN FARMER: I wish you would answer a few questions, because editors are supposed to know everything. 1. Do you think that it would be wise for our Congress this session to vote for the issuance of \$300,000 of bonds? 2. For which of the two measures should they vote—tariff for revenue only and free material to Eastern manufacturers, or for protection of Carnegie and other patriots of Europe and Wall Street who are so liberal with our laboring men? 3. When will the tariff be settled? Is it only a question to keep the people divided? 4. Do you think the Populists are the cause of the great financial trouble in 1893? It has been preached on every stump in the West that they are the cause of it. 5. Would it not be wise for farmers to work a little harder and raise more wheat and labor more hours and talk less politics? 6. What is the matter with greenbacks, based upon the taxing power and credit of the common people and credit of the whole Nation, with no taxes on the common people to pay interest? 7. What is wrong with the credit of the entire Nation? Please answer in your paper and oblige, yours—SCHUBERT, Callaway, Neb.

1. It may be necessary now to issue bonds, but it never should have been made necessary. Foolish tariff agitation and unwise reductions of revenue have brought about the present condition of the Treasury. 2. Congress should vote for retaining the tariff substantially as it is, with alterations here and there wherever experience has shown it to work badly. We believe that every item on the tariff schedule should be taken up by itself and discussed solely on its own merits. We don't believe in an omnibus bill of any kind, prepared by a little ring of scheming politicians utterly ignorant of the true interests of the country, and put through under the caucus whip. Like all human laws, the tariff has defects, and in some instances works wrong. These should be sought out and corrected. 3. The tariff never will be settled, any more than any other great question of human civilization. Every year shows progress in all things, calling for new legislation and amendment of old legislation to adjust them to new conditions. Continual discussion and legislation is inevitable in any progressive country. The tariff never will be settled so long as we continue to develop, any more than the liquor, taxation, financial, labor, criminal and other questions intimately connected with our form of society and Government will be settled. 4. The Populists were not the cause of the panic. Panics are bound to come about every 20 years in this country—about every 10 in Europe—and no party nor any one thing is responsible for them. The threat of vicious tariff legislation has protracted the panic very much longer than it would have otherwise been. Had there been no threat of overthrowing the protective system the panic would have been over last July and the country prosperous now. 5. It depends. We think that the farmer will be better off if he does not put so many hours into work and puts more into thinking. There is a golden mean between too much working and too little thinking, and too much thinking and too little working. While some men do entirely too much talking and too much of what they think is thinking, there are others who are quite as badly off in the other direction. 6 and 7. We have neither the space nor the disposition to go into the discussion of the greenback question. We leave that to the papers that make a specialty of finance.—EDITOR AMERICAN FARMER.

GRANGE EDUCATION.

The New Hampshire Master Inaugurates a Good Work.

N. J. Batchelder, Master of the New Hampshire Grange, has admirable ideas on the subject of more thorough education for farmers, which he set forth in the following circular to the subordinate Granges:

"We are convinced that it is possible and feasible for this organization to inaugurate a system of education, within its ranks that will be so practical and effective as to challenge universal admiration and result in great benefit to the rural sections of the State.

"We would inaugurate a two years' course of reading and study upon subjects systematically arranged and bearing upon the principles of agriculture and their application. We would include such subjects as composition of soils, principles of fertilization, insect pests, diseases of crops, stock feeding, floriculture, principles of stock feeding, horticulture, geology, road construction, and dairy husbandry. There should also be included such subjects as political economy, farm law, household science, home making, and hygiene.

"To make it possible to carry out this plan we would have each Grange purchase at least one book upon each subject in the course. These need not cost more than \$5 or \$10 for a year's reading, and would form the nucleus of a Grange library.

"Each member of the class would be given a copy of the books, and would be expected to read and study upon the subjects in the course. The books would be of a similar character to those which would have access in various ways, become familiar with the subjects in the course.

"The Lecturer of the Grange would arrange the subjects in the year's program, or, if this program is already arranged, provide for them by special lectures, and at the appointed time direct the consideration of the subject, which should be by discussion, addresses or essays by those taking the course, after which a general discussion by the Grange would follow.

"Each member of the class who completes the two years' course, as certified by the Master and Lecturer of the Grange, and who has furnished the State Lecturer with not less than four essays upon subjects in the course, should be entitled to and receive a diploma from the State Grange.

"We believe this plan has greater possibilities than anything previously undertaken by the Grange in New Hampshire.

"The officers of the State Grange will arrange the course suggestive of books to be purchased, and the correspondence and attend to other details, with no expense to any one."

Subsequently he and Lecturer E. J. Burnham arranged and announced the following program for the first year:

The plan contemplates a two years' course of systematic reading, the course to consist of 12 topics, with one leading book on each topic constituting the regular course, but with other valuable works suggested for elective supplementary reading. It will also be required that each member of the class shall take some part in the discussion of the topics in the subordinate Granges, and shall furnish two original essays each year to the State Lecturer for his approval. The course, or curriculum, for the first year, with the leading or required books, and the books suggested for auxiliary reading, is as follows:

For January and February—Topic, Origin of Soils; book of the course, Rocks and Soils, Stockbridge; auxiliary books, Elements of Agriculture; Chemistry and Geology, Johnson and Cameron; and Talks About the Rocks, Winchell; Soils and Their Properties, Freeman.

For March and April—Topic, Botany; book of the course, Fourteen Weeks in Botany; Wood; auxiliary books, Talk About the Plants, American Woods and Useful Plants, Darlington; Practical Floriculture, Henderson.

For May and June—Topic, Plant Growth; book of the course, How Crops Feed, Johnson; auxiliary books, The Growth of Plants, Diseases of Field and Garden Crops, Smith; Diseases of Crops and Their Remedies, Griffiths.

For July and August—Topic, Entomology; book of the course, Injurious Insects of the Farm and Garden; auxiliary books, Insects Injurious to Vegetables, Harris; Insects Injurious to Fruits, Saunders; Insects and Insecticides, Weed.

For September and October—Topic, Political Economy; book of the course, Meserve's Political Economy; auxiliary books, The American Citizen, Dole.

For November and December—Topic, Parliamentary Law; books of the course, The Woman's Manual, Shattuck; auxiliary books, Cushing's Manual, Cushing; Reed's Rules, Reed.

FARMER MEETINGS.

Gatherings of Those Who Till the Soil.

IOWA. The Greene County Farmers' Institute held a meeting at Eaton, Feb. 12, 14 and 15, with J. E. Moss, President and Harry Harding Secretary. Papers on practical farm topics were read by Joseph Mehan, Robert Patterson, R. G. Martin, Harry Harding, Clara McCollough, Mrs. W. M. Tigner, C. P. Hanger, C. P. Hanger, Ames Johnson, Chas. Renner, Joshua Foster, Jas. Underwood, W. J. Beaman, and others, and these were fully discussed.

NORTH CAROLINA. The State Horticultural Fair will probably be held in Wilmington and in August.

MARYLAND. The farmers of the State are strongly in favor of making it obligatory upon the faculty of the Maryland Agricultural College to hold annual County institutes in such counties as have farmers' organizations which ask for them.

NEW HAMPSHIRE. At the annual meeting of the Grafton County Agricultural Society, held at Plymouth, N. H., Feb. 27, it was decided to hold the next annual exhibition of the society, the 43d, Sept. 11, 12, and 13. The following officers were chosen: President, Rev. Loren Webster, of Plymouth; Secretary, W. D. Baker, of Quincy; Treasurer, W. A. Cobb, of Concord; Executive Committee, Manson Brown, David M. Tenney, Plymouth; Charles A. Holden, Ramey.

NEW YORK. Officers elected of the Western New York Horticultural Society: President, William C. Barry, Rochester; Vice-Presidents, S. D. Willard, Geneva; Wing R. Smith, Syracuse; George A. Sweet, Dansville; C. L. Hoag, Lockport; Secretary, John Hall, Rochester; Executive Committee, C. M. Hooker, Rochester; C. W. Stuart, Newark; Nelson Bogue, Batavia; E. A. Powell, Syracuse; H. S. Wiley, Cayuga.

The State Grange held its annual meeting in Utica, beginning Feb. 6 and lasting four days, Master W. C. Gifford presiding. The Secretary reported that the year five new Granges had been organized, one reorganized and two disbanded. The total membership was 33,584, a net gain of 1,509. The following officers were elected: Master, George P. Cushman, Plymouth; Cheasapeake County, Oversee, O. H. Hale, North Stockholm, St. Lawrence County; Lecturer, E. P. Cole, Ovid, Seneca County; Steward, John Moses, Hawleyton, Broome County; Assistant Steward, Willis Hatch, Skaneateles; Chaplain, A. M. Childs, Watertown; Treasurer, John F. Goff, Spencerport; Secretary, H. H. Goff, Spencerport; Monroe County, Gatekeeper, J. A. Adkins, Madison County; Pomona, Mrs. E. A. Rider, Herkimer County; Flora, Mrs. E. B. Morris,

Sodus, Wayne County; Ceres, Mrs. John Andrews, Trenton, Oneida County; Lady Assistant Steward, Mrs. George H. Hurd, Cortland; Member of Executive Committee, A. H. Cooke, Poplar Ridge, Cayuga County.

PENNSYLVANIA. At the annual meeting of the Pennsylvania Horticultural Society at Harrisburg, the following officers were elected: President, W. H. Moon, Morrisville; Vice-Presidents, H. M. Engle, Marietta; H. A. Chase, Philadelphia; J. E. Jamison, Swats; Recording Secretary, E. R. Eagle, Waynesboro; Corresponding Secretary, W. P. Brinton, Christiansburg; Treasurer, J. Hibbard Bertram, Milltown; Librarian, Thomas J. Edger, Harrisburg.

THE WOOL GROWERS. Meeting of the National Wool Growers' Association, called to attempt to defeat the wool provisions of the Wilson Tariff Bill, began Tuesday, Feb. 6, in Washington. Immediately after the opening of the meeting a committee was appointed to draw up a petition addressed to the Finance Committee of the Senate asking for a hearing on the wool schedules of the Wilson Tariff Bill. A recess was then taken pending the report of the committee.

Hon. Wm. Lawrence, of Ohio, presided. Among the members of the Association already here are: Ex-Senator Francis E. Warren, of Wyoming; David Harpster and Dwight Fuller, of Harpers, O.; Wm. H. Heriott, of Federal, Pa.; President of the Pennsylvania Wool Growers' Association; Captain A. E. Shepard, of Austin, Tex.; Hon. J. A. McConnell, of Elk Grove, Cal.; W. H. Baker, of Portland, Ore.; A. G. Beale, of San Francisco, and Frank J. Hagar, of Idaho, Secretary of the Association.

The following preamble and resolution was presented to Chairman Voorhees of the Senate Committee on Finance, by a delegation of wool growers:

Whereas the National Wool Growers' Association, representing an industry in which are deeply interested and engaged 4,000,000 people of the United States, owning and caring for 37,000,000 sheep with a direct investment of \$300,000,000 and indirect investment of being heard in the interest of the sheep and wool industry, which it is believed is seriously threatened—even to complete annihilation by proposed legislation, to-wit: the Wilson Bill, so called, now in the Senate Finance Committee; Therefore, be it

Resolved, That the Association respectfully requests that a time be set apart and a date given in which we may appear, through a committee duly appointed, to present our case for the consideration of the honorable Committee on Finance of the Senate.

In reply to the petition, Senator Voorhees said that the committee had determined to give no verbal hearings, and it would not be possible to make an exception in the case of the wool growers. He suggested that the Association submit a written statement.

The members of the association will stay in this city for a week or more, and probably endeavor to influence Senators personally, being denied a formal hearing.

PETITIONS AND BILLS. Introduced in Both Houses of Congress for the Interest of Agriculture.

THURSDAY, FEB. 1. By Mr. Hill: From Grange 768 of Grovernor's County; Unaffiliated Grange and Grange 506, of Newport, N. Y., for the passage of the Hill oleomargarine bill.

By Mr. Linton: From Michigan Sheep Breeders' Association, against free wool.

By Mr. Powers: From Vermont Beekeepers' Association, against any reduction of duty on honey.

By Mr. Schermerhorn: From 50 farmers of Florida and Bartonsville, N. Y., for the regulation of the sale of oleomargarine; also, from over 100 farmers of Montgomery County, N. Y., for the same.

By Mr. Hoeker: From 84 residents of Kennedy, N. Y., for laws to protect dairy products.

By Mr. Sherman: From E. T. Martin and 24 others of Vernon, N. Y., for the bill relating to oleomargarine.

FRIDAY, FEB. 2. By Mr. Chickering: From Citizens of Indian River, N. Y., against the sale of oleomargarine and other substances resembling butter and cheese; also, from citizens of Denmark, N. Y., against the manufacture and sale in other States of the same in original packages; also, from Carlhage Grange, No. 69, against the same.

By Mr. Sherman: From Pomona Grange, Matcy, N. Y., relating to the Hill bill on oleomargarine.

By Mr. Schermerhorn: From citizens of Florida, N. Y., against any substitute for dairy products.

SATURDAY, FEB. 3. By Mr. Chickering: From citizens of Hannibal, N. Y., to prohibit imitation of butter and cheese.

By Mr. Deibel: From State Horticultural Association of Pennsylvania, in favor of continuing Experiment Stations.

By Mr. Sherman: From Nelson Kane and 37 others of Newport, N. Y., for the bill relating to oleomargarine; also from others of Maryland, N. Y., for the same.

MONDAY, FEB. 5. By Mr. Herman: From North Pacific Sheep Breeders and Woolgrowers' Association, for protection to wool.

By Mr. Robinson: From State Horticultural Society of Pennsylvania, for a continuance of appropriations for a State Experiment Station.

By Mr. Sherman: From citizens of Florida, N. Y., against any substitute for dairy products.

By Mr. Chickering: From citizens of Hannibal, N. Y., to prohibit imitation of butter and cheese.

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